

BOSTON'S OWN COMPUTER NEWSMAGAZINE SINCE 1986

COMPUTER *Currents*

Volume 6 Number 12

MONTHLY

December 1991

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With LapLink Pro

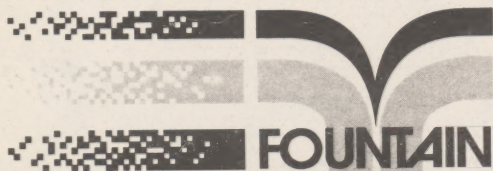
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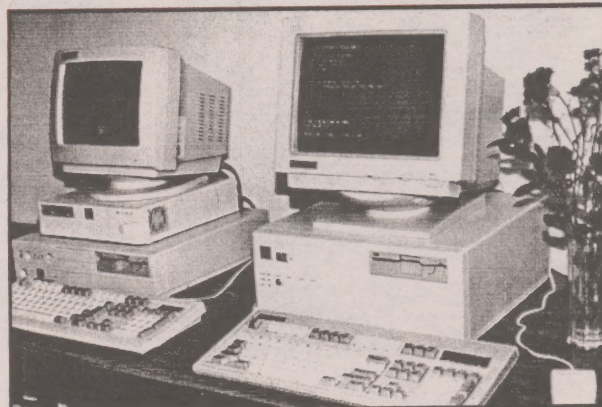
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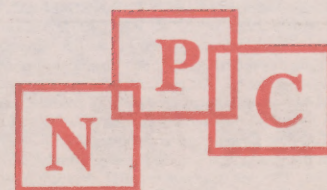
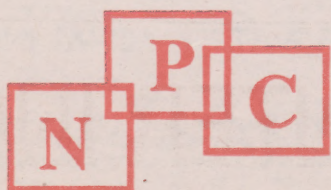
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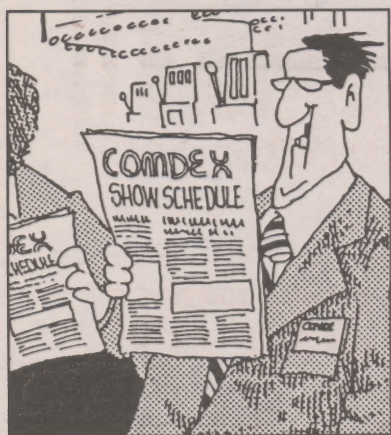
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DECEMBER 1991

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Publication Date Deadline

JANUARY DECEMBER 9

FEBRUARY JANUARY 20

MARCH FEBRUARY 18

APRIL MARCH 16

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• The management of Computer Currents is not responsible for the opinions expressed by its writers or editors.

• A one-year subscription (12 issues) is \$35 for first-class mail, and \$19.95 for third-class mail delivery.

• A self-addressed stamped envelope must accompany all editorial materials to be returned. We are not responsible for unsolicited materials.

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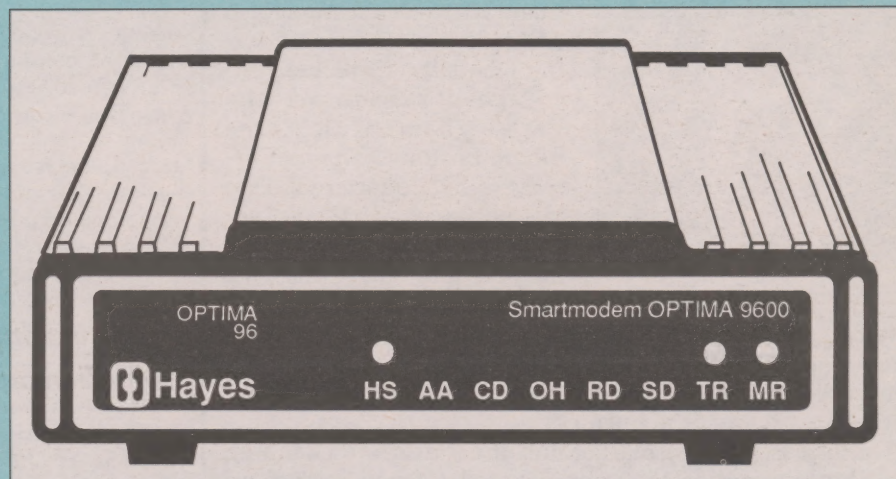
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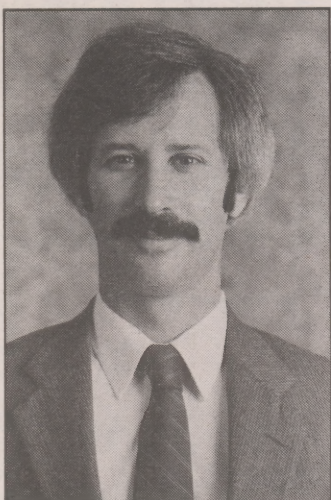


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The Worst of Times, The Best of Times



Welcome to 1992; the future that we've all heard so much about is here. But it's not exactly what we all hoped it would be. As the new year dawns in New England, the economic news doesn't seem to be improving. In fact, by many accounts it seems worse and many of us are wondering where it will all end.

Take for example the Framingham/Natick area where *Boston Computer Currents* is headquartered. Two years ago we had 13 computer retailers in the area. Now there are only four left. Names like Businessland, General Com-

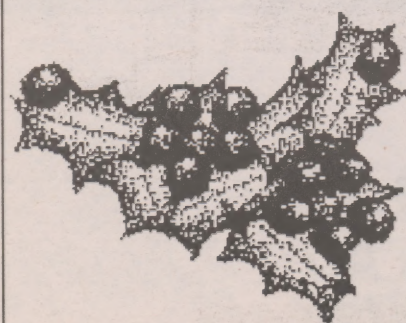
puter Store, Computer Factory, and Unitech are gone. We all have read about the explosive rise in the use of personal computers and wonder why some of these long-established names are no longer in business.

The fact is that the market and the world are changing rapidly. In April of 1990 we included a small section on notebook computers as part of our laptop issue. By June of 1991 the notebook PC had its own cover story, while the heavier laptop PCs became yesterday's technology. In the past ten months we have seen prices for a 486/33 EISA cache system drop from almost \$6,000 to under \$2,000. For users, the news that you can now buy top-of-the-line performance at bargain-basement prices is terrific. The transition has been rapid and many of those dealers unable to keep pace have vanished. It wasn't all their fault, either. Manufacturers such as Compaq were slow to drop prices, leaving their loyal dealer chain with relatively overpriced products. More recently, Compaq has announced major price adjustments (downward!).

But the news isn't all doom and gloom. There are companies that are doing very well through this recession. Applications Systems Group, a value-added reseller and computer training company based in Stoneham, has doubled in size; Natick-based Laptop Superstore has expanded from one to three locations (adding Salem and Boston in the past year); Apex Computer has expanded from its Manchester, N.H. location to include Nashua and Woburn; and NPC Computers in Newton reports a 50-percent sales increase over the past year.

Each of these companies has included an element or elements of specialization to their business, which seems to be a key factor in their prosperity. No one will deny the economy is not what it used to be. Business everywhere takes more effort than ever. But for those with drive, imagination, and the ability to identify customer needs, it can still be full speed ahead to success.

— Mark Schultz, Regional Manager
Boston Computer Currents



Happy
Holidays
from the
staff of
Computer
Currents

LETTERS

Integrated, Schmintegrated!

Editor:

I'd like to respond to Tim Bajarin's column in the October issue ("The Next 'Killer' Software"), and to all of the recent "enterprise-wide computing" cheerleading clogging up the arteries of computer periodicals from here to Saturn.

So Tim, the next "killer app" is going to be a completely integrated, network server-based package that includes:

1. A relational database
2. A graphical spreadsheet
3. A word processor
4. Object-based drawing
5. Telecommunications

Right? Oh, joy! Oh rapture! Microsoft Works on steroids! C'mon Tim, you've gotta be kidding. What's next? SAA? OfficeVision? I can just see all those bright young MIS guys running right out and buying an almost-like-new, previously-driven System 370 to crrrruunnch those big ol' databases and juggle those 2000 multi-user drones!

And right behind 'em will be those crafty old consultants, telling them, "You know, this stuff is too tricky for the average user to design an interface; we'll have our in-house programming whiz whip up a GUI for you in no time! And we'll put in lots of security so none of those hacker types will mess it up."

You're damn right your integrated solutions scenario sounds familiar. It's the same old "data processing department priesthood" clawing up out of their graves and trying to suck the life out of the living. I can hear them pounding in the door now, moaning, "Microsoft! Microsoft!"

The reason we (or at least the living among us) all bought "personal computers" was because they were "personal"! I don't define "personal software" as an electronic FiloFax and I doubt most other "personal" computer users would either. Personal computing is about the ability to choose your own tools to do your job with maximum efficiency.

The reason there are so many programs on the market is that different users have different needs and ways of working. In the Macintosh PostScript drawing market, Adobe Illustrator and Aldus FreeHand have been circling each other like snarling dogs for years, locked in a "features war" which neither can win. Some artists would die rather than give up Illustrator, others swear by FreeHand. Savvy Mac illustrators, of course, usually buy both — if they can afford it — and take advantage of the best of both worlds. The network-based "integrated

solutions" approach takes software choice away from the user and puts it into the hands of a network administrator who usually hasn't a clue about what an application is for, or how it's used.

The main reason network administrators keep their jobs and make the average computer user's life miserable is that there are no file interchange standards in the personal computing market. There are as many word processing formats as there are programs. There's no standardization in graphics, neither bitmap nor vector (if you doubt that, take a look at the import/export filter lists in CorelDRAW and Adobe Photoshop some time), and database standards are laughable. To keep things under control, a corporation mandates a particular word processor and a particular spreadsheet and the Supreme Soviet marches on.

If Apple and IBM really want to blow Microsoft out of the water (or vice-versa, Bill Gates?) they will come up with a new file interchange system which will have built-in, well-defined file formats for several data types, all readable across DOS, Windows, OS/2, Macintosh, Unix and Pink (or whatever it ends up being called).

We need easily-shared network files; what we *don't* need is more "integrated" applications, except at the most basic, low-cost beginning computer user level. High-level tasks call for high-level, specialized software, and there is no "integrated" application that will ever deliver the level of functionality needed by a power user. And remember, the more sophisticated the user, the more likely he or she will be to want to have some control over software choice.

The day of the "Data Processing Priesthood" is over. IBM killed them by putting a box on everyone's desk that was a real computer. Apple put the stake in their heart by making computers friendly.

If the computer users of the world want to keep our "democratic, free-market"-based software economy, we'll have to take to the barricades, just like Moscow and Tienanmen Square. Don't let that Help Desk Novell Nerd tell you that DOSShell is just as easy to use as Norton Desktop. Don't let that purchasing department ignoramus tell you that a 286 running Photostyler is just as fast as a Mac IIci running Photoshop (and at a third the price, too!). If you know what you need to do your job right, stand up to the MIS Supreme Soviet and say: "The right tool for the right job!"

Power To The People!

Michael Talman
San Francisco, Calif.

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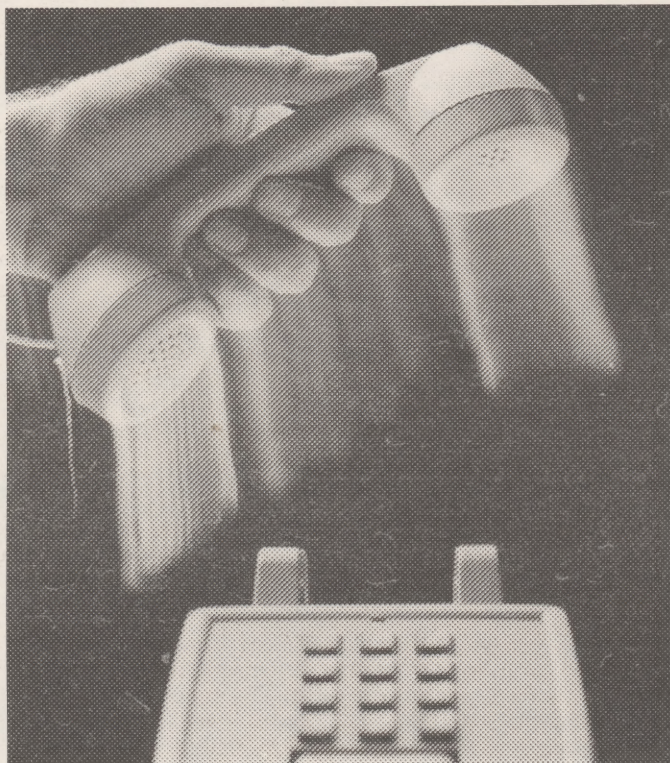
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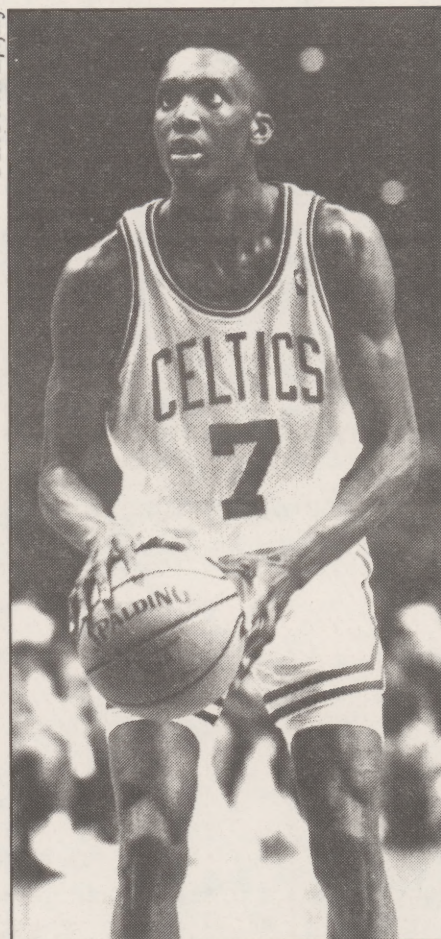
BOSTON BEAT



By Marguerite Zientara

Celtic Dee Brown Loves Computers; Basketball "Just Came Along"

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Dee Brown, Second-Year Guard
For The Boston Celtics

science major (Jacksonville University) explains. "That was my first goal and basketball just came along."

Brown may not have been quite as casual about the possibility of a professional sports career as that would suggest, however. Like thousands of other young athletes, Brown did have his dreams about the NBA (National Basketball Association), albeit tempered with a healthy dose of realism. "Everybody dreams about being a basketball player," he says, "but if it didn't happen, then I always had something to fall back on."

Brown grew up in Jacksonville, Florida, playing all sports — basketball, baseball, football. He spent so much time playing basketball, he says, that he "just got better." Still, he wasn't the biggest star on his college team, and he was only the 19th pick in the first round of the 1990 NBA Draft.

As soon as Brown started playing for the Celtics, however, Boston never knew what hit it. The rookie was a spectacular success who just got better as the year went on.

Yet, even now, Dee Brown's basketball stardom hasn't gone to his head, and he is, as ever, thinking about the day when computing will be a big part of his life. "Basically, life really doesn't start for me until after basketball," Brown says, "because I might play basketball 'til I'm 30, 31, 32 — then I've still got a big part of my life to finish. Basketball is only a small part of it."

Brown's message about life's priorities is one he's been delivering for a long time, young as he is. Out on the playgrounds, he tries to impart his wisdom to the young hopefuls. "There are other things in life, and I try to relay that to them," he says. "I learned at an early age that if you do make it, it doesn't last forever. If you don't [make it], then you've still got to do something else."

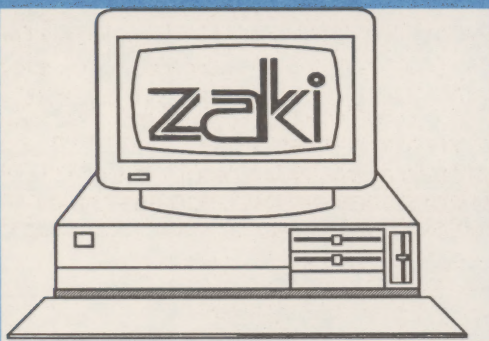
"It's always been my message, even when I was in college. My schoolwork was always first. I did my schoolwork before I went to go play basketball, so I kind of had all the bases covered. I just thought that was the right thing to do."

"My interests are computers and math," Brown declares. "I'm going to take basketball as far as I can, because it's my job now, and then, after that, I'll do my other thing I love to do."

From whence sprung Dee Brown's

SEE PAGE 10

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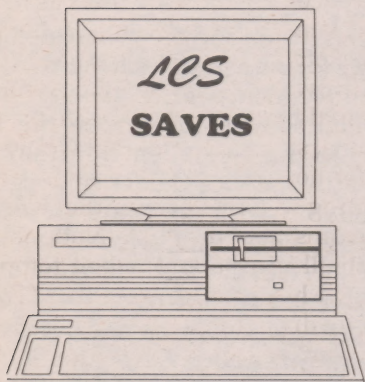
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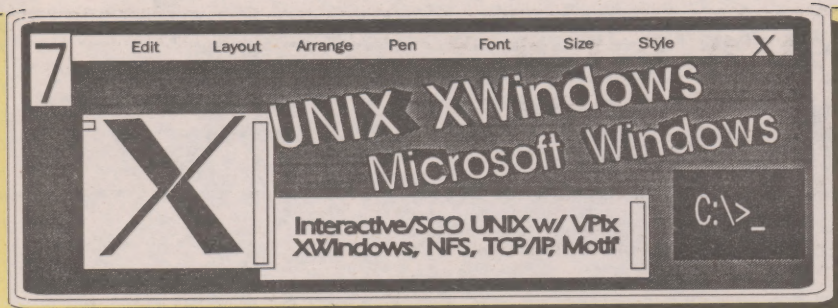
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FROM PAGE 8

digital passion? "It just came from being around computers, I guess," he ventures. His mother is a computer analyst, his whole family is math-oriented, he says, and he's owned computers since he was ten. His first machine was a (now-defunct) Adam Computer from ColecoVision; later he had a Commodore. There were Apple PCs at his school.

And what exactly is Dee doing with that portable Mac on road trips? "When we're on the plane, I might try — I try — to keep my budget on it a little bit," he laughs. "Mostly, it's just business stuff, to take care of things at home."

Atypical as Dee Brown may be, there is one thing that places him squarely among most other 22-year-olds. "Of course, to keep my mind going, I play games on it," he smiles.

Up To 20 Percent of American Work Force Is Illiterate

As much as 20 percent of the entire American work force may be functionally illiterate, estimates Dr. Lester Thurow, Dean of the MIT Sloan School of Management, who has been studying illiteracy and its effects on the work force since the mid-1960s.

"The problem is not just finding work for the functional illiterate in a high-tech scientific society, but how society itself is to survive competitively if so much of its work force cannot effectively contribute," Thurow wrote in the pre-released text of a speech he gave before The Institute of Management Sciences and the Operations Research Society of America.

Thurow defines functional illiteracy as "persons who cannot read (and understand) at a fifth grade level." He points out that less than one percent of the Japanese labor force is functionally illiterate, while American eighth graders rank in the bottom tenth internationally in five areas in which math skills were tested, both in the 1980s and just last year.

"Skills have become the key competitive weapon," Thurow believes. "And in the office of the future, every clerical worker is going to have to be taught some of the functions of a computer programmer."

grants learning English as a second language, who are trying to develop their reading and writing skills. For those people in particular, Computer-Based Communications (Lexington, Mass.) has recently initiated "The Literacy Forum" on its online service, Argus Computerized Exchange.

The Literacy Forum on Argus has been organized by the Literacy Telecommunications Collaborative (LTC), a Boston-based group dedicated to linking students by computer and modem for the sharing of information and ideas. LTC has designed the Literacy Forum to improve the English language skills of adult learners.

"This forum and the online medium allows for numerous exchanges — student-to-student — across the city," says David Rosen, moderator of the Literacy Forum. "A student from the Haitian Multi-service Center can begin a friendship with someone from the Chinese American Civic Association. If it wasn't for the online meeting, their paths might never cross."

Electronic-mail, message bases and teleconferencing are used by students from several community-based literacy centers. In addition to

being a unique educational tool, the online medium is said to be an excellent forum for crosscultural exchanges, discussion about acculturation issues, and building friendships.

Teleconferencing provides real-time contact with English-speaking users, some of whom have volunteered to hold online tutorials. E-mail allows for electronic "pen-palling," which

helps to enhance both reading and writing skills.

A Calendar section of the Forum provides news on happenings of interest to online visitors of the Literacy Forum. Promoted within the Calendar are educational workshops (both online and offline) and events and activities for both teachers and students.

To find out more about the Literacy Forum, call Computer-Based Communications at 617/674-2354 (voice) or use your modem: 617/862-9373. At the Main Menu, type GO LITERACY.

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Marguerite Zientara is the author of *The History of Computing*, copyright CW Communications, Inc., 1981; and *Women, Technology & Power*, Amacom Books, New York, 1987.

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NEWS & INDUSTRY BOSTON COMPUTER NEWS

Microsoft Makes Windows Deal With DEC

Only months after its recent break with IBM over OS/2, Microsoft is once again getting close to IBM arch-rival Digital Equipment Corp. (Maynard, Mass.) in a new deal which will see Microsoft's suite of major Windows applications, including its popular Word for Windows and Excel for Windows packages, offered to DEC users as part of Digital's "Open Advantage for the Office" program.

According to Jeffrey Rudy, group manager of the office systems and applications group at Digital, the deal will see Digital manufacturing, selling and supporting Microsoft Excel, Word, PowerPoint, Project, and Visual Basic for Windows for those DEC users who have moved to Windows-based PC workstations as part of a transition to an "open" office system.

Digital will be using the products as part of its effort to develop new client/server office automation applications, provide systems integration services and build custom systems for its users.

He says that it's not part of any grand common strategy or any big agreement like the one IBM and Apple announced

in June. It is just a way that the two companies can cooperate and start offering something which will benefit their users right away. "We wanted to work with a strong partner who could give us good, robust and well-supported Windows applications," he said. "And Visual Basic [along with Word Basic and the Excel macro language] will offer many users the chance to customize these applications for their environments."

The DEC-Microsoft applications deal forms part of a larger new applications software plan which DEC unveiled at a press conference at its Massachusetts headquarters.

Rudy says the agreement is a natural follow-up to the work Microsoft and Digital did together in establishing the ACE consortium. ACE will give Digital and all other participating hardware companies a non-Intel-based hardware platform on which they can run DOS and Windows NT applications.

For its part, Microsoft will provide a good deal of service and support to DEC in rolling out these applications to DEC customers. It has com-

mitted itself to enhancing Microsoft applications to support DEC's office services as well as to provide training and support to DEC sales, support, and service organizations.

According to Microsoft applications boss Mike Maples, the agreement will help DEC sites where PCs are being incorporated into corporate networks, where personal productivity applications are being integrated with office systems, and where departmental local area networks are being implemented.

Maples said, "We have modified our applications to take advantage of their new systems capabilities. They will market our products through their direct sales force." He said that Microsoft has a number of ongoing projects with DEC, but echoed Rudy's comments that the relationship is finite. "A lot of people have tried to extrapolate this into some geopolitical war. I think there are too many people who want to make this some answer to [the] IBM-Apple [deal]."

— Geof Wheelright & Jim Mallory,
Newsbytes

Xyquest to Market Signature

Xyquest, Inc. announced that it has reached an agreement with IBM that returns the marketing and distribution rights for Signature — a full-featured DOS word processor that was co-developed with IBM's Desktop Software Division — to Xyquest.

Signature was designed to be an upgrade for customers of both IBM's DisplayWrite and Xyquest's XyWrite III Plus products. Among its features are fully-editable WYSIWYG; a display that allows any combination of menu, mouse or command interaction; and autorecognition of DisplayWrite and XyWrite files.

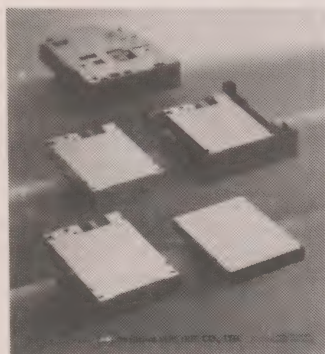
"We are pleased to have been able to come to an agreement with IBM in such a short period of time," said Xyquest President John Hild. "Our overriding objective has been to release Signature to customers as quickly as possible."

At press time, Xyquest intended to ship Signature during November. Pricing details were not yet finalized. Xyquest is located at 44 Manning Rd., Billerica, MA 01821. Telephone 508/671-0888.

SEE NEXT PAGE

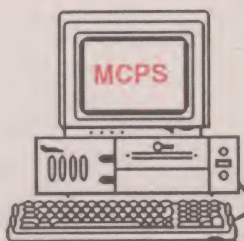
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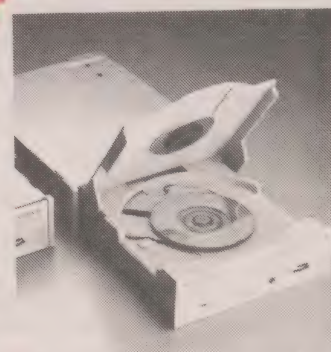
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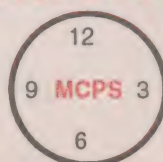
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FROM PREVIOUS PAGE

Great American Software Unveils \$299 Integrated Small Business Package

Great American Software, Inc. (Nashua, N.H.) has announced One-Write Plus Accounting Works, a package that integrates the most popular members of Great American's One-Write Plus family of financial software. Priced at \$299, the package's components would cost nearly \$700 if purchased individually.

Designed for small businesses that are automating for the first time, Accounting Works integrates accounting and payroll functions, basic word processing, mail merge, a spreadsheet link, a backup utility, and a menu organizer.

Accounting Works requires an IBM PC-compatible with 640K of RAM and MS-DOS or PC-DOS 3.1 or higher, and an IBM-compatible printer.

Great American also announced One-Write Plus Accounting, a low-end accounting package featuring General Ledger with Checks and Receipts, Accounts Receivable with Invoicing, and Accounts Payable. For a limited time, those who purchase One-Write Plus Accounting (\$169.95) will receive a free bundled copy of TaxCut 1040 (worth \$89.95) by MECA Software, Inc. (Westport, Conn.).

One-Write Plus Accounting has the same hardware requirements as Accounting Works, with an additional need for 4.5MB of hard disk space. Great American Software is located at 615 Amherst Street, Nashua, NH 03063. Telephone 603/889-5400.

MicroTouch Announces Pen Digitizer with Finger and Stylus Support

MicroTouch Systems, Inc. has introduced a pen computing digitizer for portable PCs that is said to be the first to work with both finger and stylus. The finger-and-stylus approach eliminates the need to use a stylus for every action, letting people use finger-touch for menu selection, mouse movements and on-screen buttons.

"TouchPen" was announced as part of NEC's UltraLite SL/20P Series notebook computer introduction. The SL/20P Series notebooks are the first machines to incorporate the technology. TouchPen works with Microsoft Windows for Pen Computing, Go Corp.'s PenPoint, and MS-DOS applications.

Pen input makes possible new Windows capabilities such as capturing signatures, annotating documents and faxes, and on-screen hand editing. Typical applications might include use by field maintenance workers, delivery truck drivers, insurance salespeople and pharmacies.

MicroTouch Systems, Inc. is at 55 Jonspin Rd., Wilmington, MA 01887. Telephone 508/694-9900.

Delphi Members Can Set Up Private Online Bulletin Boards

General Videotex Corp. (Cambridge, Mass.) has announced that members of its Delphi online information service now have the opportunity to set up private online message networks that can be used by anyone.

"Custom Forums" are designed to allow the exchange of news, ideas and information among any group of people with a common interest, such as families, friends or business associates.

The person who initiates a Custom

Forum becomes its "host." Delphi members who have been granted access by the host may read and respond to messages posted in the Forum, and add their own messages.

Hosts can actually make money from a Custom Forum. If certain usage levels are reached, a host can have his or her monthly fee waived, or even receive royalties from Delphi. Hosts also receive a payment each time they refer a new member to Delphi.

Any Delphi member in good standing can establish a Custom Forum. There is a \$39.95 start-up charge and a \$15 monthly maintenance fee. Other details are available on Delphi or by calling 617/491-3393. To sign up for a Delphi membership, use your modem to call 800/695-4002 and enter the Password CUSTOM815.

General Videotex is located at 1030 Massachusetts Ave., Cambridge, MA 02138.



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How do you know a definitive computer book when you see one? Look to see if it comes from the publishers of *PC Magazine* or *PC/Computing*. If so, it's written by writers and editors who know their subjects inside and out. It's packed with expert advice, useful techniques and helpful utilities. And it's designed to be easy to read, comprehend, and apply. When our name is on the cover, our best minds are inside.

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1-56276-004-1
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PC/Computing Guide to Quicken 5.0
by Michael E. Koldewich
1-56276-023-8
\$24.95

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Digital Products Unveils "LANsprint for Vines"

Digital Products, Inc. (Waltham, Mass.), a leader in printers sharing technology, has announced a printer server that reportedly increases graphics printing and font downloads on Banyan Systems, Inc. (Westboro, Mass.) Vines networks by up to 20 times.

In benchmark tests, a page created from Lotus Freelance that took 18 minutes and 27 seconds to print on a non-dedicated client workstation reportedly took just 55 seconds with LAN-Sprint for Vines installed.

"Graphics documents cause a network printing bottleneck. By speeding up the printing of graphics, LANsprint for Vines alleviates the bottleneck and increases printer and user productivity," explains Cornelius "Pete" Peterson, president of Digital Products.

LANsprint for Vines comprises of software and an add-in board that can be installed in a dedicated or non-dedicated client workstation. LAN-Sprint for VINES supports AT- and

MCA-bus PCs. It also supports parallel cable runs of up to 100 feet, rather than the usual limit of 15 feet.

A single-port board costs \$495, a dual-port board (AT-bus only) costs \$695. Up to six LANsprint for Vines boards can be installed in a dedicated or non-dedicated workstation. LAN-Sprint for Vines will ship December 15.

Digital Products is at 411 Waverley Oaks Rd., Waltham, MA 02154. Telephone 617/647-1234 for more information.

Report Writer for Entry-Level Products

RealWorld Corp. (Concord, N.H.) has introduced the "Custom Reporting" report writer, to be used with RealWorld's entry-level products, RealWorld Practical Accounting System, Point-of-Sale Plus, and Service Manager. Users of those products can now selectively choose data from their software and create custom reports and labels.

Custom Reporting is said to search and sort on any field, integrate information with word processors or spreadsheets, and load accounting data into predefined database structures; it also features built-in graphing and statistical analysis.

Custom Reporting lets users generate mailing labels, Rolodex cards, bar code labels, custom form letters, and many specialized reports including sales analysis.

Custom Reporting was developed by Teletrieve Systems, Inc. (Mt. Vernon, Wash.), a long-term RealWorld Preferred Dealer, and was marketed under the name "GetReal."

The single-user version of Custom Reporting costs \$295, the network version \$595. Available for IBM, Tandy and compatibles, the software requires 640K of RAM, a hard disk, and DOS 3.3 or higher. RealWorld is at 282 Loudon Rd., P.O. Box 2051, Concord, NH 03302. Telephone 603/224-2200 or (sales) 800/678-6336.

Customized News Service Deliverable Directly Into Lotus Notes

Individual, Inc. (Cambridge, Mass.) has announced the availability of "First! In Notes," a customized electronic news service delivered directly into Lotus Notes, Lotus Development Corp.'s (Cambridge, Mass.) group collaboration software product.

First! In Notes is said to act as an organization's customized news agent, electronically delivering stories of importance to that particular organization.

Articles sent to customers each day are selected from a broad array of electronic sources, formatted into one or more Notes databases, and then replicated nightly from Individual's operations center to the customer's server.

Each subscriber defines an "interest profile" used to select the stories to be sent. Subscribers can define a custom profile themselves or choose from a library of more than 125 researched topics spanning the high technology, telecommunications, defense, automotive, and oil/energy industries.

First! In Notes daily service for 200 professionals typically costs about \$120 per person per year. The service requires no added hardware or software for Notes installations.

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Tis the season to start thinking about the perfect gift for that computer whiz on your holiday gift list — or for that sweet child you know who loves computers (or who you wish would love computers).

Realizing that holiday shopping can be just one more stress factor in our already stress-filled lives, *Computer Currents* has done a little shopping for you. Further, acknowledging the dismal state of the economy, we have limited our gift ideas to "under \$20." (Some are way under \$20.)

Our shopping spree took us to three of the most fun places to shop in the entire Commonwealth—the Computer Museum Store, the Museum of Science Shop, and the MIT Museum Shop. For those who prefer shopping by phone, you can get free catalogs from the Computer Museum and the MIT Museum by calling the numbers listed at the end of this article. The Museum of Science Shop has no catalog shopping.

Although shopping in person can be trying if stores are crowded, it has the added attraction of offering a fascinating museum experience to soothe the

20 Holiday Computer Gift Ideas for Under \$20

Three Museum Shops Yield Treasures & Fun

By Marguerite Zientara

soul and enrich the mind. There are also more items to choose from than if you just rely on the catalogs.

The Museum of Science Shop tends to get very crowded with school groups during weekdays. The best time to shop there is after 5 p.m. during the week, or on weekends "first thing in

the morning," a spokeswoman said.

Pure Chocolate "ChocWare" Items Computer Museum (prices below)

Delicious 3-D representations, in gourmet chocolate, of a Computer Terminal (\$14.95), Calculator (\$10.95), Diskette (\$4.50 each; 5 for \$20), and

Core Chocolate (\$.50 each). A truly tasteful gift.

Panic Buttons

Computer Museum, Package of 2: \$2.50; 12 sets for \$25

When you're out of time, your hard disk just crashed (and you never made backups), the best you can do is push one of these — really hard. IBM Selectric Typewriter-like keys, in red, with "PANIC" printed in white. Perfect for the office, also handy for disasters at home.

Core Memory Plane Computer Museum, \$7

For those enamored of computer innards, what could be more satisfying than having your own, authentic core memory plane? There's more to this gift than meets the eye. A flat square measuring approximately 4 x 4 inches, the core memory plane is a thing of beauty and fascination, with pure lines that merely suggest the mystery of the computer.

Pascal-Type Calculator Computer Museum, \$5

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a plastic Pascal-Type Calculator, with stylus. Computer historians will instantly recognize the inspiration of Blaise Pascal, the 17th-century French scientist and philosopher who, in 1653 (at age 29), astounded all of Europe with his working model of an automatic mechanical calculator, something he had been working on for ten years.



Computer Artboards MIT Museum, \$6.95

This visually arresting 1992 calendar features color photographs of keyboards decorated like you've never seen them before. The one in the accompanying photograph features cartoon artwork from the "Fabulous Furry Freak Brothers" by Paul Mavrides and Gilbert Shelton. Other designs nearly obliterate the keyboard itself, which becomes instead an American flag, a stand of palm trees,

and a vision of planets in the solar system.

Video: "State of the Art of Computer Animation" Computer Museum, \$9.95

Computer animation never fails to draw oohs, aahs and gasps all around. Now you can give someone his/her own personal collection of some of the

most imaginative animation around today. This 60-minute tape features comedy, romance, commercials, fantasy, music and breathtaking beauty. Animation ranges from miniature spectacles lasting a few seconds, to full stories of surprising emotional intensity.

Winkie, Computer Friend Chip Computer Museum, \$5

This cute chip with a cute face and cute blinking eyes (one red, one green)

can be worn as a pin or an earring, and is certain to spark conversations with total strangers, via its silent but dynamic blinking. The microlights can flash singly or simultaneously. One of the best things about Winkie is the extensive "Official Winkie Users Guide," a funny tongue-in-cheek owner's manual. Winkie comes with replaceable batteries, thankfully.

Video: "How Computers Work: A Journey Into The Walk-Through Computer" Computer Museum, \$19.95

Whether or not you have visited the Computer Museum's award-winning two-story Walk-Through Computer, this 26-minute video will take you on a stroll through the working colossus, hosted by David Heil of PBS. The Walk-Through Computer demystifies technology by turning reality inside out, blowing up miniature components to a size much larger than life. Besides being amusing and amazing, the Walk-Through Computer is illuminating.

Discoasters

Computer Museum, set of six, \$15

You'd never use a real 3 1/2-inch floppy disk under a beverage, would you? This set of six coasters, in various colors, will let someone indulge at least one "bad-boy" impulse. These are real coasters for real drinks. Just don't try putting one in your disk drive.

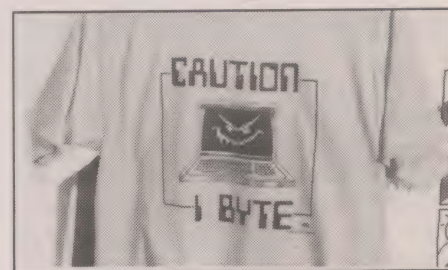
Discalculator

Computer Museum, \$12.95

More disguise, enchant (and possibly thwart) the recipient. Here a solar-powered calculator looks exactly like a 3 1/2-inch floppy disk. Slide back the metal shutter to reveal its LCD numerical display. Performs all the basic functions.

"Computer Wimp" Poster Computer Museum, \$7

166 Things You Should Know Before You Buy a Computer! — (now you tell me...) — or before you give up on the one you already have. Here's everything most people learn too late, and at great expense. Advice Bit #16: "Never be the first on your block to buy anything new." Measures 23 x 31 inches.



"Caution: I Byte" T-shirt Computer Museum, \$10

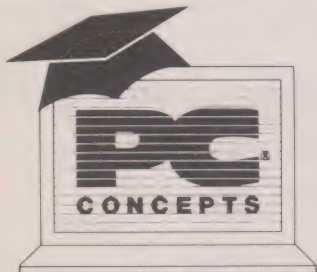
Particularly appropriate for DOS users who are being forced to convert to Windows. For adults, this 50/50

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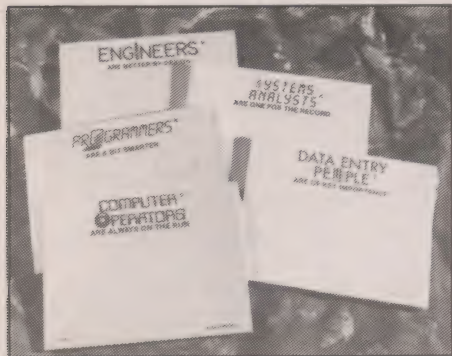
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Stick-On Notes Computer Museum, \$1.50 each

These amusing notes are sure to draw a sense of recognition from those described: "Engineers are better by design"; "Programmers are a bit smarter"; "Systems analysts are one for the record"; "Data Entry people are of key importance"; and "Computer Operators are always on the run."

Art Mousepads Computer Museum, \$15

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The Bugaboo Museum of Science, \$4

"A genuine defective computer part," boxed and made to resemble an earthly insect. "For anyone who's ever been bugged by a computer." And who hasn't been?

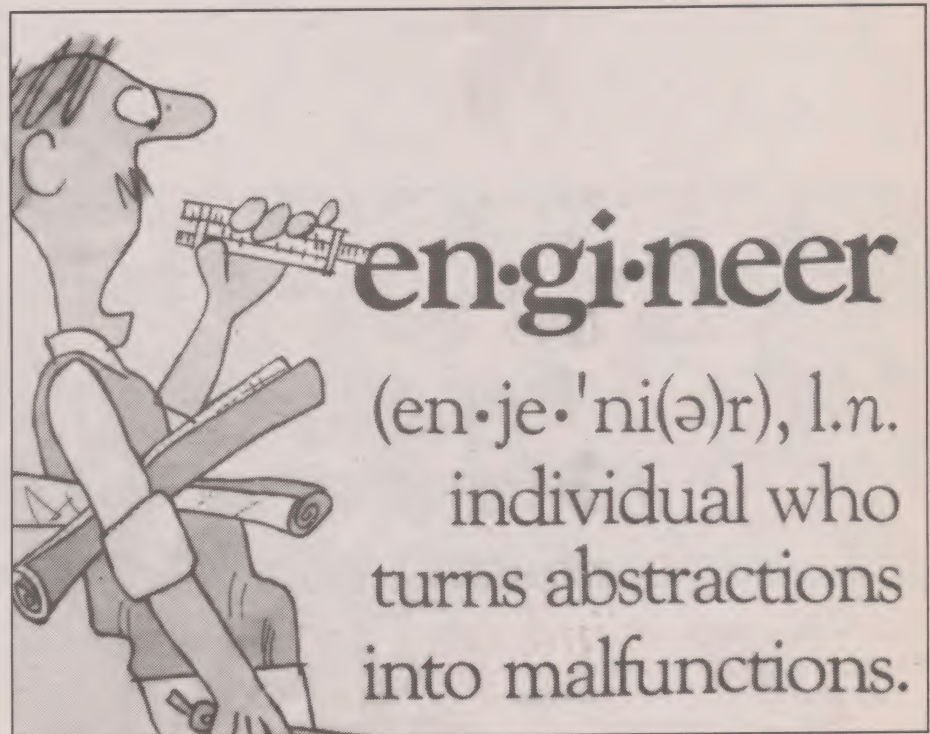
Microchip Jigsaw Puzzle MIT Museum, \$12.95

Drive someone you love crazy with this 540-piece jigsaw puzzle, created from a photograph of a microchip taken through an electron microscope. From

the Museum of Modern Art, all the beauty and intricacy of a microchip exists in this colorful puzzle measuring 18 x 24 inches.

puter Museum and MIT Museum shops do stock some duplicate items.

Also please note that *Computer Currents* is not necessarily endorsing any



Engineer T-shirt MIT Museum, \$12.95

Adult-sized T-shirt for your favorite "individual who turns abstractions into malfunctions." Let's hope he/she has a sense of humor...

Usborne Series of Computer Guide Books for Children MIT Museum (prices below)

A series of low-cost soft-cover books for children with the will to compute. *Practice Your Basic*, \$3.95. *Usborne Guide to Better Basic*, \$3.95. *Creepy Computer Games*, \$2.95. *Usborne Guide to Understanding the Micro*, \$3.95. *Usborne Guide to Computers*, \$3.95.

My First Computer Book/My First Software Museum of Science, \$17.95

For Apple II and compatibles. This book/software combo features a fuzzy brown bear, named "Bialosky," in a (hopefully) appealing introduction to computers for children old enough to type. "Paint a picture, compose a tune," the package says. "Help Bialosky get dressed to play in the snow! Boot up this disk and discover six colorful activities featuring one friendly bear."

Computer Chip Key Ring Museum of Science, \$15

A gold-tone key ring from which hangs a coin-like decoration holding a tiny microchip. Only a magnifying glass would do the chip justice, while the key ring itself is quite handsome. Once you realize it embraces a chip, the key ring becomes that much more interesting and beautiful. A nice blend of form and function.

It should be noted that some of the gifts mentioned here can be found elsewhere, of course, and that the Com-

puter Museum, particularly since we have seen only the packaging (in the case of software, videos and books) and not the essence.

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Marguerite Zientara is the author of *The History of Computing*, copyright CW Communications, Inc., 1981; and *Women, Technology & Power*, Amacom Books, New York, 1987.

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MIT Museum Shop

265 Massachusetts Avenue
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MIT Museum Shop (second location)

MIT Student Center
84 Massachusetts Avenue
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617/253-1533
Store Hours: Mon.-Sat., 10 a.m.-6 p.m.

Museum of Science Shop

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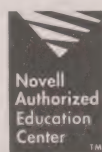
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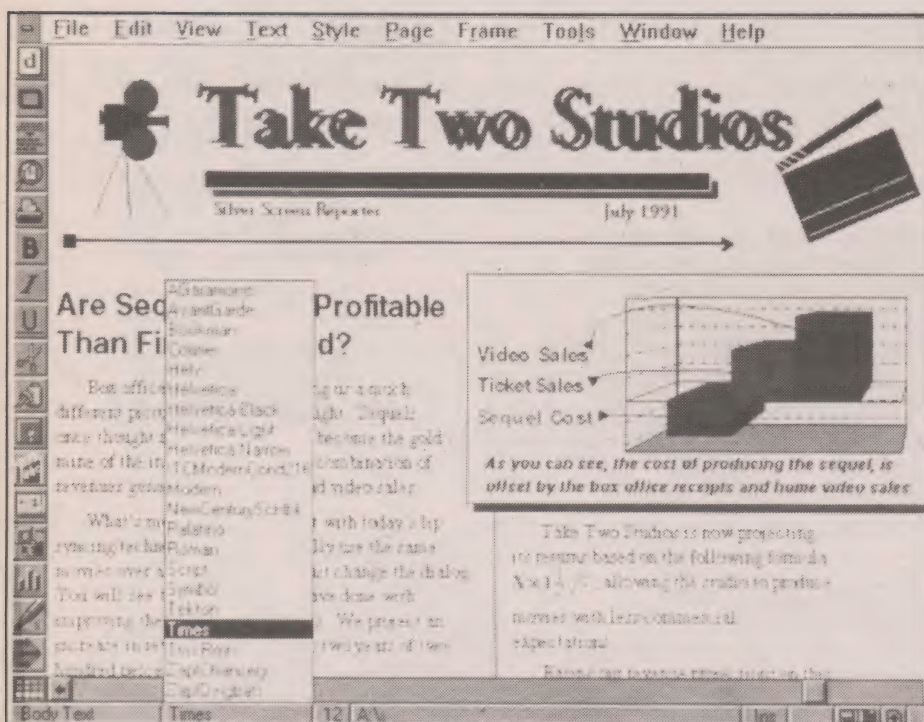
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By Charles Bermant

Land of the Word Processing Giants

Ami Pro Tops Strong Windows Competitors



Ami Pro's SmartIcons (left side of screen) out-perform Winword's Toolbar and WordPerfect's Button Bar, says Bermant.

In the October issue I previewed Lotus' Ami Pro with great effusiveness, and a caveat: Ami Pro is a great product, but you shouldn't make the investment until the able competition — WordPerfect and Microsoft — release their full-powered word processors. Today, after working with near-complete products from all competitors, I wish I had gone out on a limb for Ami Pro, as it appears to be the strongest, most versatile and easiest to use of the three.

Determining second place between Word for Windows (Winword) and WordPerfect's new products isn't so easy. Preconceptions are that WordPerfect is in trouble here; its Windows product has been delayed for so long that even the fanatics are beginning to lose faith. The features pre-

viewed over the past year have lost their luster, especially since Ami Pro seems to do it better. And Word for Windows (again, this is perception) was so hot in its original incarnation that it seemed ridiculous to assume the first major upgrade would be anything less.

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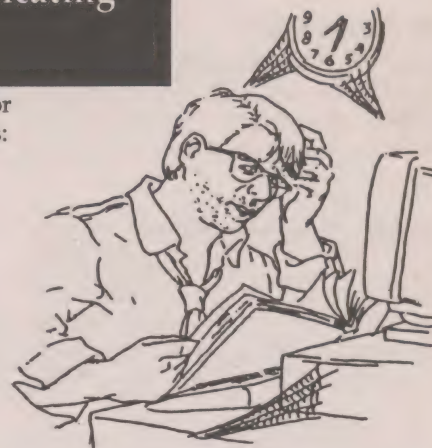
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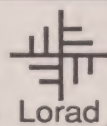
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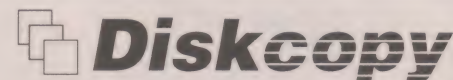


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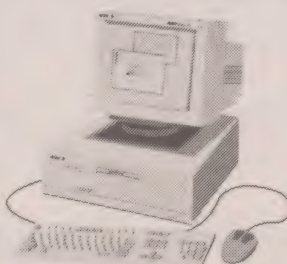
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Surprise, surprise. The two are a lot closer than you might think. WordPerfect is a lot more and Winword considerably less than the prevailing expectation. That is to say, my prevailing expectation. My biases may be considerable: I used Winword for two years and have never really liked (although I respect) WordPerfect's DOS program. So the fact that someone like me leans toward WordPerfect may mean that the rest of the world, the

"objective" users, will leave Winword in the dust.

The bottom line with regard to my fickle preferences is that Ami Pro is first, followed by WordPerfect and Winword. If this implies that Winword is somehow "worse" than the other two, it is still an excellent product. Incomprehensible columnist-speak? Maybe. It's only that these three products have done so much to enhance the word process. They all perform at a certain robust level, and leave consid-

erable room for personal preferences. This is great news for the user: whatever you choose will lift your writing to a new level.

Pushing the Right Button

The first wave of Windows word processors helped text formatting along with ribbon and ruler tools, graphics bars that extended across the top of the screen and executed commands with a push of a button. The

second generation adds a facility for global commands, called the Toolbar and Button Bar in Winword and WordPerfect respectively. (Ami Pro's version is called SmartIcons and, incidentally, leaves both of these in the dust.)

This is one of the most important and stimulating aspects of these products, as it allows you to bring the most often-used commands to the forefront. Generally, you can automate the most important functions in your system, and execute them with an icon click. Specifically, WordPerfect does it better. Its Button Bar can extend along any side of the screen, showing text, pictures or both. (Text-only buttons on the side of the screen offer labeled access to 21 commands.) You can scroll to the buttons that screen space doesn't accommodate. And you can add or delete a button item with a click on the menu item and a drag to the button bar.

**Ami Pro,
WordPerfect
and Winword
all perform at a
robust level,
and leave
considerable
room for
personal
preferences.**

Winword's Toolbar is nowhere near as intuitive. The icons are fixed in a single row on top of the screen, with a maximum of about 25. Customizing the Toolbar is easy, but only after you've read the manual and tried it a few times. Again, the Toolbar isn't actually bad; the Button Bar is just better. This is especially puzzling in light of how the button bar's attributes are in the public domain: WordPerfect has shown its product publicly for more than a year. Usually companies inspect competing products and offer improvements. In this case, it appears that Microsoft was deliberately operating in a vacuum.

Both Winword and WordPerfect pay homage to the massive WordPerfect installed base with some command consistency. WordPerfect offers a switchable keyboard, where you can load WordPerfect for DOS preferences with a few menu clicks. Winword doesn't borrow patented WordPerfect keystrokes, but offers an online seminar about the differences and similarities between the two programs under the Help menu.

In reality, the item labeled "WordPerfect Help" isn't so narrow. It lists several commands alphabetically

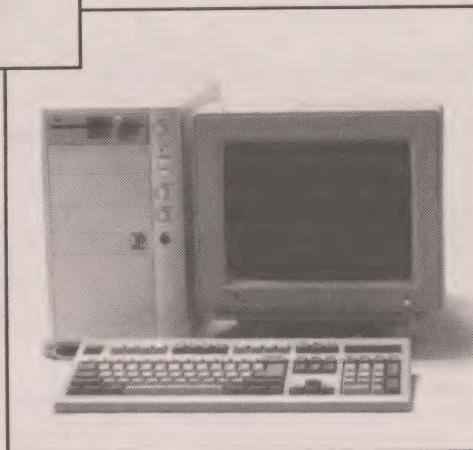
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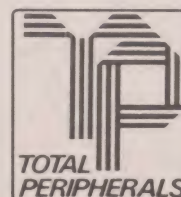
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(in common WordPerfect parlance) on the left for mouse selection. If the feature can be described in a line or two, an explanation pops up; if not, you are sent to the proper page in the manual. This fast-help facility is useful and succinct, and will be appreciated by any user (WordPerfect transplant or otherwise) who hates thrashing around for the solution to an immediate problem.

These futile grabs for the installed base notwithstanding, if you use either company's DOS products and want to move to Windows it makes sense to stay with the vendor of choice. If you like WordPerfect DOS, its Windows product offers a smoother transition, both functionally and financially. DOS Word fans should do likewise.

On the other hand, if you like what you are using there may be no reason to change. Someone who's already learned DOS WordPerfect's obscure commands won't necessarily welcome Windows' "easier" command set.

Make Up Your Mind

Having expressed at least a temporary preference for WordPerfect here, I must admit there are several useful features, needed refinements and overall cool aspects in the new Winword. One feature that nobody else has (at least for the time being) is drag-and-drop text editing. Here, you highlight a text or graphic area with the mouse, then lift the mouse button briefly. The object then moves to the next place you click.

Winword's grammar checker is well integrated into the program. Combined with the spelling checker, you need to make only one proofreading pass without needing to exit from Winword itself. Winword has also improved the spell checker itself, flagging the entry of corrections that may not be in the dictionary (the previous version did not have this safety net).

Winword users will also find the File Management module very useful. Here, you click on a file in the left of the screen as the formatted contents appear on the right. This saves a lot of time, and spares the interminable opening and closing of files in search of the right document. Unfortunately, WordPerfect's take on this feature is a little more elegant, with a button-driven interface that traces each step of the file search.

Put On a Happy Interface

Ironically, one area where WordPerfect has a clear advantage over Winword is the user interface. This extends beyond the basic Toolbar/Button Bar argument into all dialog boxes, menus and screen layout. In all cases, WordPerfect uses Windows' sculpted third dimension to the maximum. The importance of this can't be minimized: Choices that can be seen clearly become more accessible.

Differences aside, both Winword and WordPerfect for Windows are robust, complete packages that represent the state of word processing art, 1992-style. Indications are that, like the DOS world, the two products will battle each other for market share, engaging in a feature war that will ultimately benefit the user. And if this product wave is any indication, WordPerfect will

— as it does in the DOS world — maintain the edge. It's easy for a reviewer to call a product good, bad or indifferent, but in some cases shades of gray come forth. This is one such example — and it's remarkable that a first-rate package like Winword 2.0 can emerge as its category's third best product.

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Charles Bermant is a freelance writer based in Gladstone, Oreg. He is the author of *The Windows 3.0 Companion*, now available from Business-One Irwin. He can be reached through MCI Mail as "cbermant."

Product Info

Ami Pro 2.0, \$495
Lotus Development Corp.
Word Processing Division
500 Glenridge Dr.
Atlanta, GA 30342
800/831-9679

Microsoft Word for Windows 2.0, \$495
Microsoft Corp.
One Microsoft Way
Redmond, WA 98052
206/882-8080

WordPerfect for Windows 1.0, \$495
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Interviewed by Marguerite Zientara

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Hours: Mon.-Fri., 8 a.m.-5:30 p.m.
Type of Sales: Direct corporate sales
Date Started: Data Care Corp., 1983; ValCom Business Center, 1988
President/Owner: Rajan Munjal
Salespeople: Six
Hardware: IBM, Compaq, NEC, Epson, AST, Samsung, Toshiba, Hewlett-Packard
Software: Accounting: AccPac accounting software from Computer Associates; support provided by a local CPA firm. Networking: Novell, LAN Manager, Token Ring
Consulting: Yes
Service: Data Care Corp. offers service only, has eight service technicians, offers depot contracts, on-site contracts.



Rajan Munjal

ValCom Business Center is a value-added reseller (VAR) that has its own service company, the eight-year-old Data Care Corp. Besides hardware service, ValCom also adds value with its expertise in networking and in the vertical market of accounting software.

"When I started Data Care Corp. in 1983 as a service company, we repaired products to the component level for companies like Digital, Data General, Wang, and Prime," says owner Rajan Munjal. "We grew in the areas of fixing video display terminals and printers, and then got into PCs in about the 1985-1986 time frame, and started signing on contracts to service PCs."

Two years later, Munjal decided to become authorized on IBM and Compaq but found that, in 1988, he had to have a storefront in order to be authorized. So he hooked up with ValCom and started a franchise in Woburn.

Today computer retail stores are in transition. ValCom has built up a large corporate clientele, and the vendors recognize VARs as essential to their own success. IBM and Compaq do not require dealers to have storefronts anymore. Munjal has completely refurbished the building at 95 Terrace Hall Avenue, Burlington (Data Care's location), and recently consolidated ValCom and Data Care into one loca-

tion, without a storefront.

With your own service company, you must have a rather comprehensive service policy.

We're very flexible about our contractual agreements. We have depot contracts, and on-site contracts. We do time and material billings, and we have some open-ended P.O.'s from some of the large corporations. We tailor any type of service contract to fit the customer's needs.

What would you say differentiates Data Care/ValCom from the competition?

I don't want to just say we offer service — everybody offers service. But we offer superior service, predictable service, to our customers.

"Predictable." That's a nice way of putting it. What do you mean by that?

We try to understand customers' expectations and try to not only meet them but try to exceed them. For ex-

ample, if we sign a contract for four hours turnaround, we will try to be there within three hours or two hours. And if we say we're going to call the customer in one hour, they'll get a call immediately. Our service people are trained to be in constant touch with the customer, to try to get their equipment up and running in the shortest possible time. Our service people keep their commitments to our customers.

On the hardware side, what is selling the best right now?

Right now, believe it or not, AST is selling very well.

Is that surprising?

It is a little surprising to me.

Why is that?

Well, we have big guns like IBM and Compaq, and here is a new player who has generated good demand for its product. Some of the corporations have come to us and asked whether we carry AST.

Personally speaking, what is your favorite thing about the computer industry?

The computer industry is totally enchanting. It is amazing even to people who've been involved with it for a long period of time. I've been involved with

the industry now for a good 15 years. I still find totally surprising the advancements and new products, the way products are marketed, and the pricing going down. A day isn't dull. It's an excellent field to be in.

What is your ultimate goal for your company?

Well, of course, I want to expand the company, needless to say. I would like to be at a \$20-million level. We are now at about the \$6-million to \$7-million level. I'd like to reach that goal in two to three years.

What future plans does the company have?

We have a very good salesperson on board who is taking on the project of getting us into the CAD/CAM market. That will happen within a few months. In the future we'll probably add on some software line, and some other vertical markets.

Is there anything else that you'd like people to know about your firm?

Good people are the heart of every business. If there are good service people looking for jobs, a stable place to work and progress with, ours is the place to come and work for. We are presently looking for a couple of people.

The Expanding Power Of Color Computing

Is It More Than Most Users Need?



By Rick Altman

The downhill skier looked as if she would ski right out of the 40-inch display monitor, as a crowd of over 50 produced standing-room-only conditions. "If I were to use this image in an advertisement," the man behind the microphone began, "there are a few changes I would want to make to it first. With this new product, I can make those changes without hiring an expensive photo studio."

With mouse in hand, this man proceeded to play God with his color photo. "If she is really skiing, then there should be a mountain in the background." So he superimposed a sierra landscape behind the skier and positioned them with breathtaking real-

ism.

The crowd gasped, oohed, and aahed, but he wasn't done. "Now this picture looks more lifelike, but it's still missing something. You see, if this skier were moving through the snow, the mountains in the background

wouldn't be as sharp." No problem—he pulled down a menu, fiddled with a few electronic dials, and the mountains took on a subtle soft-focus—just enough to add tension and movement to the scene. "Now this picture is ready for use." The crowd, now over 75, cheered enthusiastically. Then they disbursed, looking for another exhibit that would dazzle them beyond belief.

You could describe the major theme from the 1991 Seybold Desktop Publishing Exposition in San Jose, Calif. with one word: color.

Virtually every new product, every "new technology," every company announcement, and every press confer-

ence centered around the use of color in electronic publishing. Color imaging, color separating, color scanning, color correction, color trapping. Everywhere you walked, virtually every booth you visited—color.

A year ago, the Seybold floor was brimming with high-resolution displays for publishers who wanted to work with two pages at once. The more expensive they were, the more shades of gray you could see. In fact, "gray scale" was the operative buzzword a year ago. Now, gray scale is old hat. Who cares about gray—we've got color.

SEE NEXT PAGE

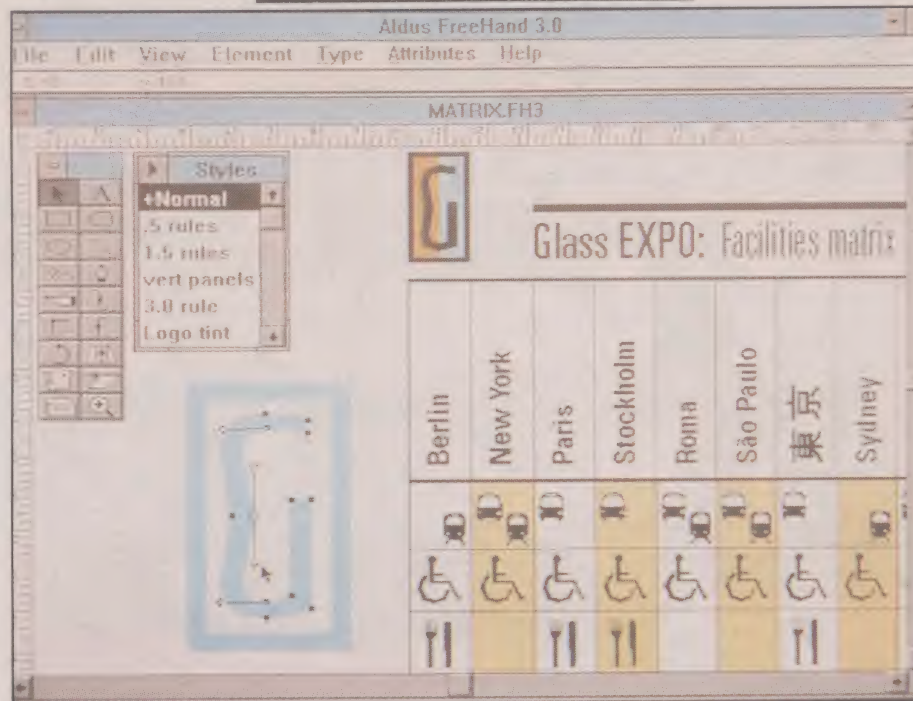
FROM PREVIOUS PAGE

Matrox showed its 24-bit card that, when connected to a 20-inch display, produces images that look like they came straight from a television. And with emerging prepress software, the user has brightness, contrast, tint, hue, and sharpness controls at beck and call. For PC users, this is without precedent.

Continuing down the Seybold floor, Radius showed its Pivot, the color monitor that can tilt from landscape to portrait on the fly. If you are working on an advertisement in PageMaker, you could turn the monitor to its portrait position. If you switch to a flier, you wouldn't have to try to jam the landscape page onto the portrait screen — you could just turn the display 90 degrees. The phosphor senses the shift in orientation and automatically transposes the pixels. The screen goes blank for about two seconds, and then the image appears in landscape form.

Ventura Software unveiled its set of prepress color extensions that work directly from within Ventura Publisher, offering a virtual gold mine of capability for those who work with four-color images. With these products, you can create fully-separated color output files and send them directly to camera. No separating, no stripping.

Aldus announced FreeHand for the PC, a drawing program with very aggressive positioning against CorelDRAW. In fact, the drawing market is heating up big-time, as a host of other



Aldus FreeHand 3.0 features a range of drawing and editing tools, a variety of text-handling features and production options.

companies — Software Publishing, Bitstream and Micrografx, among others — rolled out illustration/type manipulation programs, all with startling color output. It's becoming difficult to tell the difference between the \$495 programs and the \$199 ones. These days, it seems all programs fit text to a curve, support the Windows-based font outline programs, offer custom color palettes, and have impressive color-filling capabilities.

I am both enthused and apprehen-

sive about all this power. The growing technologies bringing 24-bit color capabilities to personal computing represent a startling breakthrough. The potential cost-savings on four-color publishing projects could be enormous, and the value of bringing color control in-house inestimable. Indeed, the professional color publishers can hail the dawning of a new age. They stand at the threshold of incredible advancements.

But what about the other 98 percent

of us? That's my estimate of the percentage of my readership that does not work regularly on color publishing projects. Never before has so much new technology catered to so few. I'm still in search of the perfect gray-scale monitor, but I'm afraid that display companies are going to pour all of their resources into color products.

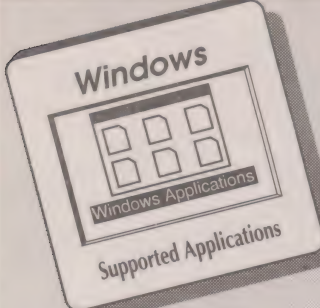
And what about my 386/33 computer? It used to be fast, but for 24-bit color work, it's just average. A 486 would be better, and I might as well get 16MB of memory. Oh, and I really should get a math coprocessor. Just as the cost of a powerful PC comes down into the \$2,000 range, a whole new level of expensive hardware gets added to the formula. With these new color display cards and large-screen color displays, if you want to do color work, you're looking at an investment that is back up in the \$6,000 to \$7,000 range.

This news is only mildly disappointing — it's part of the inevitable ebb and flow of new technology and new pricing structures. It always costs more to be a pioneer, and it will be only a matter of time until color technologies reach a plateau of wide-scale affordability.

And that's what really scares me! The prospect of thousands of unqualified users getting their hands on color correction software is worse than the worst horror story ever told about amateur desktop publishing. It's not too difficult to learn enough to become a bad desktop publisher: you buy a book on design, learn what kerning

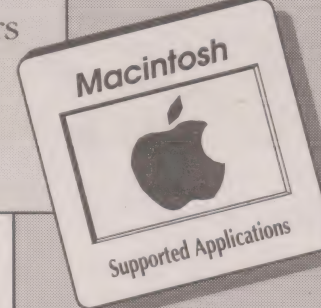
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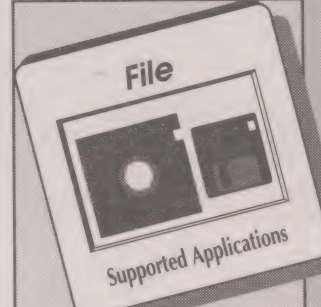
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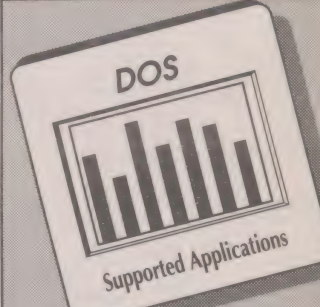
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means, and decide on the eight typefaces you want to use for your next newsletter. Before you know it, you're well on your way to producing a few miserably-bad pages. Thankfully, after murdering a few dozen brochures and a couple of longer documents, you begin to develop a feel for the essence of tasteful output. You begin to develop an eye.

Professional color processing is not nearly that friendly. You need years of experience before you can even approach the point of being bad at it. First off, the terminology is far less approachable and the demands much more exacting. Secondly, it's not nearly as easy to learn through experimentation. With black and white publishing, you can experiment with various techniques and different designs and get immediate feedback just by printing the page from your laser printer. Not so with color work. Color editing is painstaking, subtle, and involves complex redraws on very large monitors with thousands of pixels to paint. As with black and white work, the proof is in the printing, but this new technology requires expensive color printers on site, or a trip to a color-equipped service bureau. A correction to a black and white document might take two minutes to execute and proof on a laser; a color correction would take overnight. And let's not forget about file sizes that approach 100MB.

While many hundreds of computer users have become capable publishers



Radius' unique color Pivot monitor offers portrait and landscape modes.

with the onset of desktop publishing, I doubt very seriously that many will become professional color publishers. I fear, nonetheless, that many will try, and we'll be in for a whole new wave of desktop ugliness.

So you'll forgive me if I don't approach the brave new world of color publishing with unabashed enthusiasm. Not only am I unqualified to speak on the subject, but also most DTPers have little more than a passing interest in it.

As a result, I will not only continue to focus on more salient DTP issues, but also present color alternatives that don't require second mortgages.

Granted, most of us prefer running Windows in color than in black and white, and many of us have an ongoing need for accurate on-screen color representation for spot-color and four-color proofing. I distinguish between this type of color work and online four-color correction/separation, requiring

mega-doses of memory, processor speed, time, skill, and money.

If the technological landscape changes to the point where full color publishing is within legitimate reach of a majority of desktop publishers, I'll be quick to sing its praises and extol its virtues. I don't expect that to happen anytime soon.

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Rick Altman, author of five books on desktop publishing, consults and lectures on corporate publishing throughout Northern California. You can write to him at 20204 Merritt Drive, Cupertino, CA, 95014, or on CompuServe (72341,1714).

Product Info

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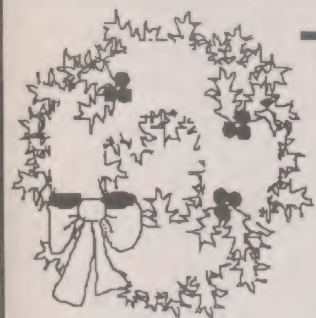
Full Page Pivot, \$1,249

Radius Inc.
1710 Fortune Ave.
San Jose, CA 95131
408/434-1010

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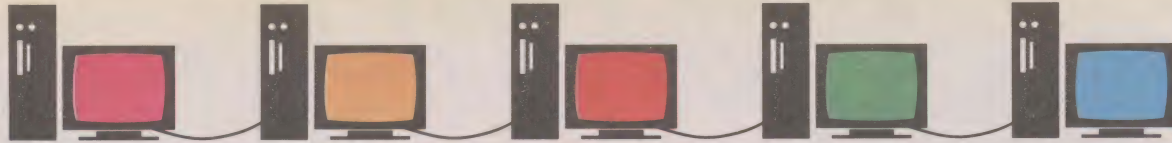
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Happiness Is a Warm Color (On Plain Paper)

New Options For Color Printing

By Tony Bové

What do fashion designers, advertising agencies, desktop publishers, graphic artists, packaging consultants, and speakers armed with slide presentations have in common? The need for color printing on flexible media — plain paper, packaging material, transparencies, business card stock, or whatever.

All of these groups use color graphics in some form and need to see what the color graphics will look like before producing a final product. These groups may already use desktop color printers, but chances are they are frustrated when seeing color graphics printed on special thermal paper, or on copier paper with poor quality, because the paper isn't the real stock they will use for the final product.

Flexibility is needed especially for packaging design, because you don't know how a color image will look on a certain kind of paper or stock unless you use that paper or stock.

These groups also can't tolerate low-quality output, narrow dynamic range (not enough different discernible colors), and colors that don't look warm

and saturated. In short, the current crop of liquid ink-jet and thermal color printers just don't satisfy these groups.

New Printers of the Purple Page

At the October Seybold Desktop Publishing Conference and Expo in San Jose, Calif., desktop color printers were almost as ubiquitous as laser printers. You could have wallpapered the show with the sample pages that were spewing forth from printers that, in some

cases, are no larger than laser printers but more than twice the price and less than half the speed.

You can buy a desktop color printer (the Hewlett-Packard Deskwriter C) for the Mac or PC for as low as \$1,095 (suggested list price). It's a liquid ink-jet printer offering 300 dots per inch (dpi) resolution for monochrome (black or single color) to full color printing. To change from monochrome to color, you swap the black-ink print cartridge with a color-ink print cartridge that

holds cyan, yellow, and magenta inks that are mixed to create the printable colors. The lower-resolution HP PaintWriter is only \$995.

An ink-jet printer fires drops of colored ink onto paper from high-pressure nozzles. For the price, liquid ink-jet color printers are remarkably useful for printing transparencies and presentation hand-outs, although the color quality is not in the same ballpark as the thermal printers or the new solid ink-jet printers from Tektronix and Dataproducts. This is because the paper usually soaks up the liquid ink.

The low-end liquid ink-jet printers can print on plain copier paper but not on thicker stock, and they are not capable of rendering medium-quality color prints, or "comps" (comprehensives). Color prints, which are essentially used to provide feedback to artists, designers, and clients before starting a large print job, require a high level of quality in color reproduction. The liquid ink-jet printers are attractive for office use because they use plain paper, but some are not fully 300dpi in resolution, and none can print black pages as fast as less expensive black and white laser printers.

Color thermal wax-transfer printers, such as the ColorScript 100 Model 10 (\$8,995) from QMS (Mobile, Ala.), use

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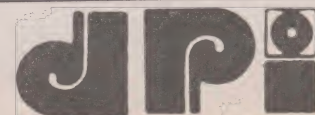
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a heating element to fuse a ribbon with a film of pigment or wax to paper. The quality of thermal wax-transfer printing is good for making master pages for use with a color copier. The colors are richer than the colors of liquid ink-jet or sublimal dye printers. But color thermal wax-transfer printers also are slow—requiring around two minutes per page. Thermal paper also is more expensive than regular copier paper.

Thermal sublimable-dye-transfer printers, such as the Mitsubishi S340-10 (\$13,995) from Mitsubishi Electronics (Torrance, Calif.), heat sublimable dye to convert it to a gaseous dye that diffuses into the chemical coating of the paper. The intensity of each color can be controlled, and the printer can lay one dye on top of another, providing the best quality of the thermal transfer printer types, with the smoothest color gradients.

Both types of thermal-transfer printers require specially coated paper or transparencies. So far, the desktop color thermal printers in the \$5,000 to \$15,000 range have been used primarily for printing "comps" but not for test prints onto the final stock.

Color laser printers are already available that use plain paper, but they are expensive (the \$48,000 Canon [Lake Success, N.Y.] Color Laser Copier is one example; the \$100,000 Kodak [Rochester, N.Y.] ColorEdge is another). However, laser technology requires four passes over the page to lay down four different colors, and the



The Hewlett-Packard DeskWriter C is a liquid ink-jet printer offering 300dpi resolution for monochrome and full color printing.

laser engines have registration problems.

Crayons for Industry

The new solid ink-jet printers solve most of these problems. The Tektronix Phaser II PXi and the Dataproducts JOLT printers can print onto plain paper and other types of paper stock, and offer wider dynamic range and better quality than most other types of desktop color printers. They are expensive

(the Tektronix is \$7,995 and the Dataproducts \$6,995 for the PostScript versions), but they offer a new level of color printing that can satisfy anyone's need for test prints on different paper stocks, cardboard, packaging material, or plain copier paper.

The Tektronix Phaser PXi uses a 24MHz RISC controller implementation of Adobe PostScript Level 2. It can print on any paper or card stock and, unlike the JOLT, directly onto transparencies. With Tektronix's "phase

change" ink-jet technology, ink that is solid at room temperature is melted and sprayed onto the paper or transparency page, where it resolidifies instantaneously. A cold-pressure fusion process presses the ink for better adhesion onto transparencies and paper stocks, producing higher-quality colors than the colors printed by other solid ink-jet printers, such as the Howtek Pixelmaster (the first printer to use solid ink). The color page is printed in a single pass, which avoids the registration problems associated with multiple-pass color printers.

The Phaser II PXi offers vivid color with excellent dynamic range, an easy method of loading solid ink sticks (which look like crayons), low-cost consumables that are directly related to the use of color on a page (no wasting of color film when printing in black and white), and print media flexibility—everything from wrapping paper, paper bags, and packaging to business card stock (in a demonstration, we even printed successfully on toilet paper).

The Phaser II PXi supports letter and tabloid page sizes. The engine is rated at two minutes-per-page in color, less than one minute for black and white. Estimated per-page costs are five cents per black and white page, and 25 cents per color page.

The Tektronix printer is one of the first to use Adobe Systems' PostScript Level 2 page description language, which provides an architecture for color

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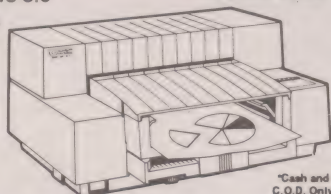
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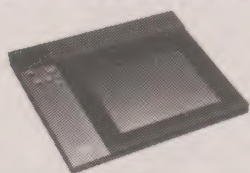
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management with a universal color model, file compression to reduce the size of color documents, and a system of calibration that can work with existing applications and future printing devices. The Dataproducts JOLT printer also supports PostScript Level 2.

For these vendors and their customers, being on the verge of a color revolution for several years can be frustrating, but eventually rewarding as the barriers holding back color printing finally come down.

Obstacles on the Verge of Breaking Down

Several factors are holding back the use of color, even with solid ink-jet printers. First, high-quality color printers are expensive at \$5,000-\$10,000. Second, color printers are slow and not efficient for printing black and white pages. Third, the use of color images is inconvenient and expensive, due to the large size of files containing photo-quality images. Fourth, the process is unpredictable

— the colors do not always print the same as they are displayed. The fifth and last reason is that technology has not reduced the cost of short-run color press jobs.

PostScript Level 2 starts to address the third and fourth problems by providing standard image compression and more predictable colors with output devices. But the first and second problems have not been addressed.

As for the fifth and last problem, the copier is the black and white printing press of the office. Color copiers are

still expensive, and there are no high-speed color printers that can duplicate the color pages for on-demand document printing. Color publishing on a large scale is still locked into the conventional prepress methods associated with color offset presses, color web presses, and so forth. The cost of printing is a limiting factor in producing commercial and in-house publications and documents with color graphics and photos.

Because conventional methods are still required to duplicate the color pages in volume, there is still a need for specific printing press knowledge to be embodied within software so that users who have little or no knowledge of press conditions can specify colors. Examples of software with built-in knowledge of printing presses are Cachet from EFI (Salt Lake City, Utah) and PrePrint from Aldus (Seattle, Wash.).

Some graphic artists, desktop publishers, designers, and presenters are willing to put up with these problems to get the benefits of color printers. These benefits include immediate feedback for the artists and designers without resorting to photographic prints, and on-demand color transparencies and color page hand-outs for presenters. For these applications, some types of color printers are exceptionally useful and inexpensive.

I say this as I load the paper tray of a \$9,995 solid ink-jet printer with greenish-white card stock, and print ready-to-fold colorful Christmas cards. Next week I'll switch to cream-colored card stock for my color-logo business cards.

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When not printing color greeting cards with loaner printers, Tony co-edits several newsletters with his partner Cheryl Rhodes, including the *Bové & Rhodes Inside Report on Multimedia* and the *MacroMind Developer Letter*. For details, contact him on MCIMail (TBOVE), CompuServe (70105,722), or AppleLink (D0493), or by writing to Bové & Rhodes, Box 1289, Gualala, CA 95445.

Product Info

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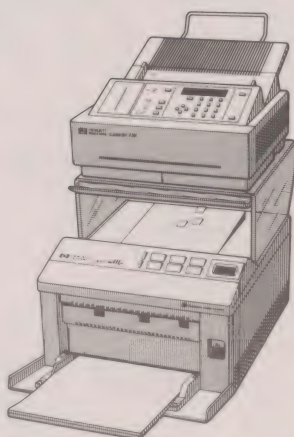
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Contemplating the Zen of Infini-D Integrated 3-D Rendering Software

By Howard Bornstein

The flashy computer graphics that you see on television are usually done on expensive, high-end graphics workstations, using software that costs thousands of dollars. But technology changes quickly and there are now packages that run on the Macintosh that you can use to generate similar-quality images and animations. One of the best packages, in terms of cost, power, and ease of use, is Infini-D, from Specular International.

Infini-D is a completely integrated package that lets you model 3-D objects, render them in 32-bit color, and use them in complex 3-D animations. You can save your animations as PICT files or write them directly to a professional videotape unit.

Photorealistic three-dimensional renderings are being used everywhere these days, from brochures, catalogs, and advertising to computer- and video-based multimedia

presentations. Infini-D's powerful, intuitive design allows any Macintosh user to take advantage of the striking beauty and usefulness of these images.

Objects of Admiration

You create objects in Infini-D by using the Toolbox palette. This palette has tools to create six primitive objects: the cube, the sphere, the cylinder, the

SEE NEXT PAGE

UPDATE

Solutions, Inc. Offers Mac Gateway for AT&T's EasyLink

Solutions Incorporated has announced "GlobalGate," a Macintosh gateway for AT&T's EasyLink Services electronic-mail network, to allow users of either QuickMail (CE Software, Inc.) or Microsoft Mail Networks to exchange files through EasyLink.

Messages for delivery through EasyLink are created using the same Microsoft Mail or QuickMail message creation tools users are already familiar with. Copy lists for a specific message can include both local and EasyLink recipients as well as recipients on other gateways.

Graphic faxes reportedly can be created from any Macintosh application. GlobalGate comes with a printer driver for capturing graphics that otherwise would have been printed, and turning them into faxes. This service is particularly useful when a fax must be sent simultaneously to a large number of recipients.

The system administrator decides how often GlobalGate communicates with EasyLink to send and receive messages. GlobalGate is expected to be used widely as a bridge between geographically separated LAN mail networks, since it provides store-and-forward, desktop-to-desktop delivery without requiring a fixed investment in leased lines or frequent long-distance calls.

The GlobalGate server can run under either System 6.05 or later, or 7.0. It requires either Microsoft Mail 3.0 or QuickMail 2.5. The gateway server must be on a Macintosh Plus or later with at least 2MB of RAM and a hard disk.

The list price of GlobalGate is \$395 for a server and a five-user pack. Additional user packs cost from \$195 (for five users) to \$1,250 (for 50 users). Solutions, Inc. is at 30 Commerce Street, P.O. Box 783, Williston, VT 05495. Telephone 802/865-9220.

ClarisWorks Integrated Software Ships

Claris (Santa Clara, Calif.) is now shipping an integrated software package for Macintosh computers that will directly compete with Microsoft Works.

Like Microsoft Works, ClarisWorks features word processing, graphics, spreadsheet, charting, database management, and communications features.

Claris claims that unlike existing integrated products, which force the user to move among different "modules," ClarisWorks allows users to access tools and features from within a single document.

Renee Risch, spokesperson for Claris, said that there is a tool pallet on the left-hand side that allows for the specification of such applications as graphics without quitting the document being worked on, so users "can do all that on one page."

The company maintains that users

can upgrade to the company's MacWrite Pro for word processing, MacDraw Pro for graphics, and FileMaker Pro for database management with relative ease.

According to the company, the program's compact size (just 565 kilobytes), extensive file exchange capabilities, and "seamless" integration make it the ideal productivity tool for mobile professionals, first-time Mac owners and business and education users who need a number of applications.

ClarisWorks is available now from authorized Claris resellers at the suggested retail price of \$299. Current owners of Microsoft Works, Symantec GreatWorks, and RagTime can trade up to ClarisWorks for \$99 through January 31, 1992. Call 408/727-8227 for details.

— Ian Stokell, Newsbytes

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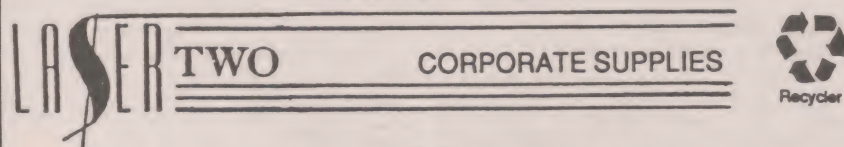
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cone, the 2-D square, and the infinite plane. You can also create two special objects — lights and cameras. In addition to these objects, Infini-D provides tools for extruded objects and lathed objects. An extruded object is created in two dimensions and the third dimension is automatically added by the program. A lathed object is created by designing a form and then rotating it around an axis. Infini-D also has a powerful, but confusing, free-form tool.

Infini-D displays its 3-D world in up to four windows. The default views are top, front, side, and camera. The first three views are like standard drafting views, while the camera view shows you the objects in 3-D. When you change something in one window view in Infini-D the other windows are automatically updated.

You're not limited to these default views, however, since you can choose any of the six standard views plus camera view for any window. Cameras are ordinary objects in Infini-D and can be created, positioned, and rotated like any other object.

A big problem in 3-D design systems is giving the user a good model of the world and allowing him to manipulate it in a consistent manner. Infini-D does a good job of this. The Toolbox contains tools to move and rotate objects, while a navigation panel has tools to move and rotate the viewer (actually, the camera). In other words, you can move the objects or you can move yourself.

Every object you create in Infini-D has its own information box which contains its coordinates in space, its dimensions, and its rotational position. You can alter these qualities of an object either by direct manipulation or by changing values in its information box.

Infini-D lets you set up hierarchic relationships among objects so that one object may be dependent on another. For example, if you model an airplane, you can link the rudder to "belong" to the body of the plane. When you move the plane, the rudder always comes along, but it may also move independent of the body. In the case of the rudder, it would rotate along its vertical axis. Infini-D also lets you constrain any element of an object's position, its orientation in space, and its dimensions. Besides locking these val-

Macfocus

ues, you can also set minimum and maximum values for any of these attributes. This allows you to create realistic movements of these objects for animation.

Scratching the Surface

Once you create an object in Infini-D, the next step is to assign a surface to it. Surfaces give each object realism and character. Infini-D comes with a large list of pre-defined surfaces such as gold, silver, glass, mirror, pine, oak, and marble.

One of Infini-D's most powerful features is its ability to let you edit your own surfaces. You choose one of the seven basic color maps (flat color, Mandelbrot set, Julia set, tiling, noise, marble, or wood), modify its surface with one of the special effects options (waves, bumps, or corrosions), and then select its surface properties.

One of Infini-D's most powerful features is its ability to let you edit your own surfaces. You choose one of the seven basic color maps, modify its surface with one of the special effects options, and then select its surface properties.

Infini-D lets you modify eight surface properties. They are diffuse shading, specular highlight, shininess, metallicness, glow, reflectiveness, transparency, and index of refraction. This gives you great control and the ability to create hundreds of surface types. The surface information dialog box, which contains

the controls for surface properties, displays a small ray-traced image that corresponds to your currently-defined surface, so you can see what it will look like.

Besides creating surfaces from scratch, you can also import PICT images and paste or wrap them around Infini-D objects, just like pasting a decal on a model.

Render Unto Caesar

Infini-D has six rendering modes. The render modes vary from minimum detail (which are very fast) to extraordinary detail (which are very slow). The two quickest modes show the object's bounding box or a wireframe view of an object. The next three render methods are flat shading, Gouraud shading, and Phong shading. Each successive mode gives a better rendition of the object than the one before it. But the better the rendering of the surface, the longer it takes. Infini-D also gives you the option of ray tracing an image. Ray tracing is a sophisticated procedure that shoots rays

of light from the camera's viewpoint to every single pixel in the image. This produces the most realistic rendering of an object and displays full reflection and refraction of light as well as transparency and shadows. However, ray tracing can take an extremely long time to compute.

Each window in Infini-D can be set to render in a separate rendering mode, and you can individually assign objects to be rendered in specific modes which are different from the overall mode of the window. For example, you may want flat surfaces to be rendered in the flat shading mode and only ray trace a couple of objects in the model. This will significantly reduce the rendering time and still give you a very impressive image.

Animated Excitement

Built into Infini-D is a powerful real-time animation sequencer. Rather than being just a frame-based animator, it uses a time-base for its animation so that you can edit objects in time as they occur in the animation.

Creating animations in Infini-D is literally a snap. You set up a scene the way you want it and take a "snapshot." Then you go to the next scene and take another snapshot. Infini-D computes the transformations to move the scene from the first snapshot to the next and creates all the intervening frames. This process, called "tweening" (because it computes the frames in between the two snapshots) is very easy to use and very powerful.

Besides computing the changes in position and rotation of objects, the tweening feature will also let you transform one object into another. For example, if your first snapshot is of a marble goblet on a wood table and your second snapshot is of a wine glass on a formica table, Infini-D will automatically transform the goblet to a wine glass, turn marble into glass, and change wood into formica, all in one smooth transition! You determine how many frames or seconds it takes to make this transition.

Infini-D's greatest features are its power and ease of use, but it has a few problem areas. The feature set is quite deep and the otherwise well-written manual has some serious holes that thwart the learning process. For example, the most flexible object tool is the free-form tool. Unlike the other tools in Infini-D, this tool is not intuitive to understand, and the manual devotes only two pages to it. While the

manual devotes a lot of space to teaching you how to construct custom surfaces, it doesn't give you enough practical information to tell you how to construct specific kinds of surfaces, or why you would use an option such as a Mandelbrot surface.

A Month of Sundays

The power of Infini-D also comes at a cost, which is in processing time. When you are selecting surface maps, Infini-D creates a small ray-traced image to show you the surface properties. While this image is created with successive refinements, it can still take up to three minutes to see the finest level of detail. It can take you hours just to examine the surface libraries that come with Infini-D. We would like to see some PICT documents included with the product that already show these images in full ray-trace mode.

When rendering scenes, it can easily take four to five hours to ray trace a full screen image. A five-second animation, at thirty frames a second, might take 750 hours to compute. That's more than a month with your machine running 24 hours a day. If you are serious about rendering images, you will want to get the fastest machine you can to dedicate to rendering.

Overall, though, Infini-D is an elegant 3-D modeling, rendering, and animation package. It produces beautiful images and has an interface that anyone can use. Priced lower than most of the competing products, it is accessible to anyone who wants to create photorealistic animation images.

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Howard Bornstein is a veteran Macintosh journalist who functions well in the 3-D world, only bumping into things occasionally. He is the author of a book from Prima Publishing, *Falcon 3.0*, about the new F-16 flight simulator from Spectrum Holobyte.

Product Info

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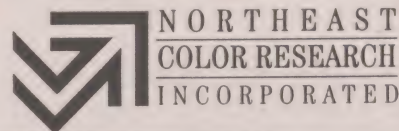
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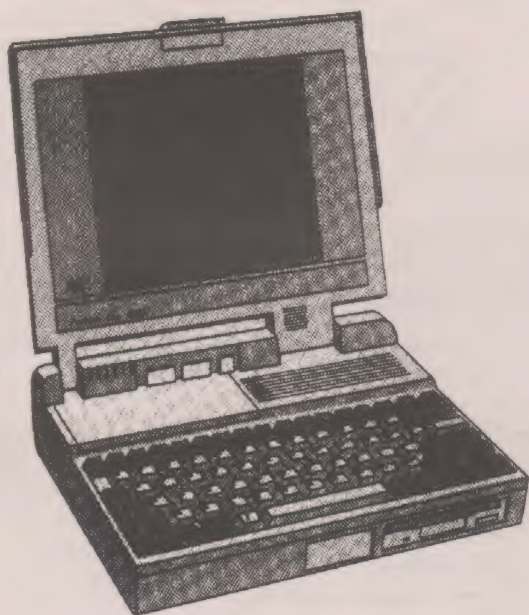
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—Christine Leonardich, Naval base network manager

Just a few years ago, it would have seemed impossible. The Berlin Wall is down and the bricks sold off to tourists. A McDonalds is catering to fast-food lovers in the heart of Moscow. Statues of Lenin are crumbling all over Eastern Europe. These events symbolize the spreading triumph of individuals against an inefficient, centralized government.

In the corporate computing environment, we're witnessing a similar, although admittedly less dramatic, revolution. Individuals are battling organizational bureaucracies for the freedom to control their own number-crunching and report-generating destinies.

In theory, it should be easy. The would-be network purchaser makes a case to management showing the obvious merits of implementing a PC-based data-processing solution. Approval is granted. The network is installed. Unfortunately, it sometimes turns out to be easier to abolish Communism than it is to push through a new means of information processing.

The Network's Political Nature

The problem generally is one of power. In a big organization, individuals and departments commonly strive to exert control. Each group tries to force its own agenda upon solutions to common problems. Historically, mainframes have been the dominant source for inputting, manipulating and storing data. The data processing departments' exclusive domain increasingly is forced to share computing power with PCs. The booming trend toward utilizing networked PCs to run a business is referred to as "downsizing."

The result of downsizing is a corporate computing arena that serves as an

incubator for knock-down, drag-out fights. As end-users share greater responsibility for processing data directly, they want a corresponding increase in their ability to access and manipulate it. Their desires conflict with those who want to maintain established centralized controls on all computer processing.

The purpose behind a network is the enhancement of information sharing. Unfortunately, organizational politics often promote encapsulation of knowledge. Reluctance to share information may promote political objectives, but it works against the establishment of an efficient, productive network.

Systems integrators inevitably run up against corporate politics in their attempts to design an optimal system. While we've picked up a few tricks over the years, we certainly cannot claim to be experts in cutting through red tape. Fortunately, many of our customers are masters at the art of jumping through political hoops. We interviewed six of these individuals in order to ascertain some of the ways in which they've managed to implement network solutions for their organizations.

All six experts emphasize one central theme: the individual who wants the network must take complete responsibility for it. The person must "own" the project and spearhead it all the way through to completion. Technical expertise is not important, but an ability to evaluate the alternatives is.

Battle Plan for Implementing a Network

A director for Walmart claims almost all decisions are made within 15 seconds. Even the largest decisions (such as whether or not to start the "Sam's Wholesale Club" division) are made within two days. Most people

do not work within such a dynamic decision-making environment. Layers and layers of approval and signatures must often be obtained before even a small network can be implemented.

Network approvals are particularly tough because they face a combination of resistance to change and fear of new technology. The would-be LAN buyer must take control of the situation and plan a strategy. Seven strategic guidelines stand out as being particularly helpful in obtaining results:

1) Set parameters up front. What do we want to accomplish? How much do we have to spend?

2) Be prepared to do a great deal of legwork to arrive at facts and figures supporting the network.

3) Decide who is ultimately going to make the decision. Try to arrange for decisions without committees if possible.

4) If more than one decision maker is involved, periodically provide a formal environment in which to share information.

5) Attempt to identify the likely hurdles to the project, and meet them head-on.

6) Don't hesitate to seek help.

7) Stand up for what is right.

Why Get a LAN?

Purchasing a network ultimately comes down to the bottom line. It should save money on one hand, and boost productivity on the other. These expected results should be quantified in a proposal to the decision makers. The following list of ten questions is a sample of the type of inquiries that can lead to a quantitative benefits analysis:

1) How much time would a network save employees from unnecessary duplication of, or searching for, information?

2) How could marketing be improved by enabling individuals to access and sort common customer files?

3) Can staff be reduced by eliminating such things as the need to enter in accounting data two or more times?

4) Can cash flow be increased by lowering inventory levels due to a real-time inventory accounting system?

5) Can customers be serviced better through quicker information about the products they order?

6) Would field sales and service people benefit by being able to tap into the corporate database while on the road?

7) Would electronic access to various templates for tasks such as bidding, writing dunning letters or budgeting enable the employees to boost the quality of their work?

8) Would e-mail foster better communication and help eliminate problems resulting from lack of timely knowledge?

9) Would network features such as fax servers and document scanners eliminate expenditures on microfiche readers and plain-paper fax machines?

10) Would time be saved by sharing printers, modems and other peripherals?

Network benefits are different for different organizations. Many benefits cannot be quantified at all such as increased creativity and enthusiasm among employees. In one large physician placement corporation, a network forced several departments to work together. Many old barriers between the departments consequently broke down.

Identify the Hoops

Try to determine the source and form of potential resistance to a network. The MIS (management information systems) department might strive to maintain strict standards and limit purchases. The senior law partner might be good friends with the owner of an archaic word processor company. The list goes on and on.

Political pressures can even take their toll from outside the organization. A software company recently dictated the network architecture of a sanitation facility. They insisted the customer adhere to an old contractual arrangement that called for an obsolete network topology.

Once a hoop has been identified, meet it head-on. Going over someone's head frequently leads to more problems than it does to progress. The battle becomes one of domain rather than just computerization.

Once opponents have been identified, the next step is to turn them into allies. People are not nodes on a network, they are individuals with various needs, including the need for control. In order to convert foes to partners, their needs must be acknowledged and met.

The MIS department is typically in a position of power when it comes to making computer-related decisions. Many mainframe experts are progressive and dynamic; they sometimes are the ones spearheading the movement for networks. For the most part, though, MIS people have a predisposition toward centralized data processing. The idea of LANs and the distributed processing they represent are a threat not only to their power base, but to their very survival.

SEE NEXT PAGE

All six experts emphasize one central theme: the individual who wants the network must take complete responsibility for it.

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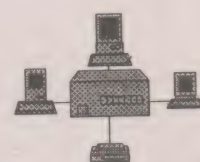
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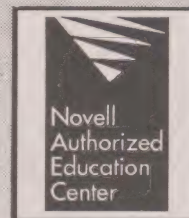


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FROM PREVIOUS PAGE

One of our customers faced a challenge from her company's MIS department. They threatened to block any network purchase unless they were in direct control. They imposed a slew of requirements ranging from the type of computers to the type of topology they would accept. Our customer felt that these enforced standards would lead to an inferior solution at an inflated cost. She counteracted the problem by asking for a delegate from the MIS department to participate in the planning process. She held regular meetings where the plans were discussed, and diagrams were shown. Because of their representative's participation in the project, the MIS department came around to her way of thinking.

Don't Hesitate to Seek Help

Larger organizations may have the budget to hire a consultant. An objective viewpoint from outside the corporation may help navigate around company politics. A consultant who is experienced with networks can help determine the organization's needs as well as select the systems integrator.

We recently saw the potential results from trying to go it alone. A city finance director decided to forego spending \$10,000 to hire a computer consulting firm. Instead, she obtained city approval for her approach which utilized a very well-known computer company's Unix workstation as a net-

work file server. When warned that this strategy would not work, she was insistent that the computer company had told her it would work, and that she was going ahead and spending the \$126,000 it would take. It didn't work. She's now out of a job, and the city has a \$126,000 boondoggle.

When an organization doesn't have the resources for a consultant, the buyer can still use the systems integrator as a resource. A good network vendor will work with the buyer to come up with the optimal solution given the various constraints involved such as performance, security and budget.

Seeking outside council to help design a system by no means shows a lack of ability. Even network experts are likely to disagree on certain points. We recently relayed a relatively simple networking question to the Novell engineers in Provo, Utah. It took them several days to reach a consensus.

Creativity, vision and flexibility are all important in designing a network. By seeking different viewpoints, it is

possible to propose various alternatives and scenarios, which in turn help the decision makers arrive at an optimal solution.

Use Competitive Examples

Pointing out the competition's superior system can sometimes be the fastest way to gain approval. One PC buyer for an independent gasoline/grocery chain had been trying unsuccessfully for a year to computerize the managers' daily paperwork. At a staff meeting headed by the C.E.O., he casually mentioned that Shell Oil had computers in all of their stations. Within three days he had the go-ahead to implement a system for his operation.

Articles from trade magazines can be especially effective in alerting upper management to the progress being made by the competition. People are often more easily convinced when they read something in print. In the public sector, support can be solicited from other similar government bod-

ies. A city manager recently convinced his city council to install a large LAN with help from his counterpart in a neighboring city. The other manager was only too happy to boast about his successful network to the council.

The Future

Political pressures notwithstanding, PCs increasingly will be responsible for a bigger share of organizational computing. Hardware continues to get better, faster and cheaper. Software is becoming ever more versatile and simpler to write and use. These rapid technological advances ensure a greater reliance on networked PCs as a primary information-processing source.

As the downsizing movement continues, changes in historic corporate power structures accelerate. Such shakeups inevitably cause confusion and confrontations. A need exists for individuals who can stand up to political pressures and push network solutions through the system. These visionaries and risk-takers have a unique opportunity to help shape the future of their organizations.

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Steve Kaplan is president of RYNO Computer Systems in Benicia, Calif. RYNO stands for Realize your Networking Opportunities. Steve can be reached at 800/366-7966.

MIS people have a predisposition toward centralized data processing. The idea of LANs is a threat to their very survival.

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Mac Market Takes Pounding

The Mac market took a major pounding this week on the Big Board of the Boston Computer Exchange as the introduction of the new models at Comdex had a dramatic effect on bid and ask prices as well as volume. The higher end of the Mac market took the brunt of the losses this week with the popular SE/30 with 40MB drive off \$125 to close at \$1,750 and the 80MB model dropping \$100 to end the week right at the \$2,000 threshold. This is largely due to the new Classic II coming into the market. Buyers expressed a preference for the way the Classic uses the old 68030 over the SE's design. It seems that the SE/30, once the darling of the market, is headed into the long slow decline of the secondary market.

In other Apple news, the Mac IIX lost \$300 to close at \$3,200. This change is credited to the new Quadra which has all of the top end of the market's attention. Buyers who were hoping for an upgrade kit for the earlier Mac IIs were disappointed to find that Apple has released no such kit, and the Mac IIs were down across

the board in the face of the new models. It's time to move on to the next generation of Macs and the normal winnowing of the market has left all major models lower in value.

Compaq Dumping: What's Next?

Compaq dumped its president and now it is dumping the LTEs. While there has been no formal discontinuation of the LTE-286 with a 40MB drive, the machines have been falling out of the warehouse and into broker channels at \$840. This stab in the back to the usual Compaq distribution channel has a lot of Compaq's friends angry. So the once-mighty Compaq also decided to follow Dell's lead and sell through the mail-order channel. The LTE with a 40MB drive was off \$450 to close at \$1,000 and the 20MB model dropped \$300 to close the week's trading at \$800. There was speculation that the other shoe would drop in the next few weeks and that Compaq might dump a lot of other hardware in the near future.

The following prices are for the week ending November 8, 1991

The BoCoEx Index of Used Computer Prices

Machine	(\$ Close	(\$ Ask	(\$ Bid
IBM AT 239 20MB	550	650	500
IBM AT 339 30MB	750	1000	700
IBM PS/2 Model 50 20MB	950	1000	800
IBM PS/2 Model 50Z 30MB	1100	1200	1000
IBM PS/2 Model 55 60MB	1800	1900	1700
IBM PS/2 Model 55SX 60MB	1450	1500	1400
Compaq Portable III 20MB	750	900	700
Compaq Portable 286 20MB	1100	1350	1000
Compaq SLT-286 40MB	1400	1700	1400
Compaq LTE-286 20MB	800	1200	700
Compaq LTE-286 40MB	1000	1300	900
Compaq Deskpro 286 40MB	800	1000	700
NEC PowerMate SX+ 40MB	1200	1350	1100
NEC PowerMate SX+ 80MB	1350	1400	1250
Zenith SupersPort-286 20MB	950	1000	875
Zenith TurbosPort-386 40MB	1400	1900	1400
Macintosh SE 40MB	950	1100	950
Macintosh SE/30 40MB	1750	1900	1700
Macintosh SE/30 80MB	2000	2100	1900
Macintosh IIX 80MB	3200	3400	3100
Macintosh IICX 80MB	2950	3300	2800
Apple ImageWriter II	250	350	200
Apple LaserWriter IINT	1800	2500	1800
HP LaserJet	425	500	400
HP LaserJet II	925	975	800
Toshiba T-1200HB 20MB	750	900	700
Toshiba T-1600 40MB	1000	1300	950
Toshiba T-3100 20MB	915	1050	850
Toshiba T-3100 SX 40MB	1900	2300	1900
Toshiba T-5100 40MB	1400	1700	1300

BoCoEx Index prices are based on complete systems with keyboard, monochrome monitor and adapter, less the value of any software or peripherals. Call BCE, 617/542-4414; Buyer's Hot Line, 800/262-6399; fax, 617/542-8849. BCE's Fax Yourself Information is 617/542-2345. Ask for extension 300 for BoCoEx Index.

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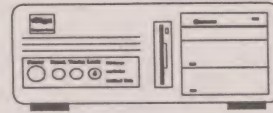
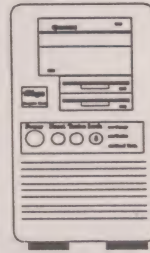
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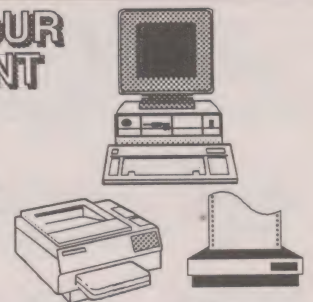
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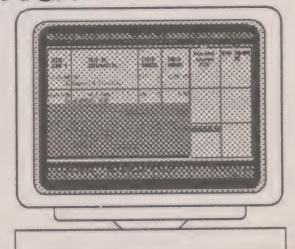
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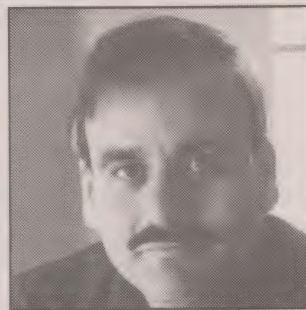
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By Nick Anis

LapLink Professional

Full-Featured PC File Transfer

Transferring files from one computer to another can be a real pain. Instead of making it easier, having the other computer in the same room can sometimes make it more frustrating to transfer files.

One tried-and-true method is the floppy drive and sneakernet. But not everyone has the blank disks, the time and the patience for this lengthy and annoying process that involves copying the files onto floppies and physically carrying them over to the other computer.

Other than having someone else do it, what could be easier than to hook up a cable or phone wire, press a button and go to lunch? When you return, if both systems are set up correctly, all the files will be transferred without swapping a single floppy...

Okay, though it's easy, you still need file-transfer software and a proper connection between systems. But consider the alternatives.

Using a Modem for Linking PCs

Back in January 1975, Ward Christensen wrote what later became Xmodem, so he could transfer files by phone to his friend Randy Suess. These two guys were only 20 miles away from one another, but staying indoors in the

middle of a Chicago winter and doing the transfer by phone made more sense. Besides, there was a blizzard at the time. More than 15 years later, millions of PC users transfer files by modem.

If you know how to use a modem and terminal software and you have a phone line, you can connect two systems and transfer files. The process is considerably more involved than LapLink Pro. First, you must set each system's parameters correctly. One system must be set up as the "sender" and the other as the "receiver." BBS or

telecommunication software host modes usually allow the receiver to control both systems. The standard terminal mode of telecommunications software is more limited. The sender must transmit the files and the receiver must set up the download path and put his program into the appropriate file-transfer protocol receive mode. The "download path" is the disk and directory in which the transmitted files are to be stored on the receiving machine.

Most telecommunications (terminal) software offers an assortment of file-

transfer protocols. With more advanced file-transfer protocols it's possible to transfer an entire subdirectory of files with a single command, but the group of files to send and the download path (place to store the received files) must still be specified.

Even if you know how to use modems and terminal software, transferring files from one computer takes longer. This is because more keystrokes are required and transfer speeds are usually limited to 2400 baud. Although 9600-baud modems are starting to catch on, and compression effectively doubles the throughput, direct serial connections are faster. A direct serial connection can transmit files at up to 115,000 baud without compression. Even faster is a parallel connection, which can support up to 500,000 baud.

Networks are the fastest — with a high-speed network, speeds of 10,000,000 baud are possible. For a system to be able to send and receive files over a network, it must be both a server and a workstation. This type of arrangement is called a peer-to-peer network. LANtastic and Mainlan are two popular peer-to-peer networks. LANtastic Z is a special "zero-slot" LAN that supports serial, parallel and modem connections. Peer-to-peer networks are considered user friendly, but they can be usually more complex than BBS and telecommunications host software. These programs really aren't

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all that complicated; after all, there are millions of people using them. But when it comes to transferring files, it doesn't get any easier than Traveling Software's LapLink Pro.

A Kinder, Gentler File Transfer

LapLink Professional has an improved file manager interface that resembles the Windows 3 file manager and MS-DOS 5's shell. Besides serial and parallel file transfer, LapLink Pro now supports modem connections. According to Traveling Software, LapLink Pro "connects your laptop to any desktop—anywhere—anytime." They're right, if the desktops you're dealing with have IBM compatibles on them. LapLink Pro doesn't work with Macintosh, but LapLink Mac III does. If you're a Mac user, LapLink Mac III easily connects Macs and PCs. LapLink Pro doesn't support other platforms such as PC-to-mainframe, Sun workstations, minicomputers or whatever. LapLink Pro and LapLink Mac III cover the PC and the Mac fine. The other "Rambo-desktop" people out there will have to figure out another way to transfer their resumes from their VAXes, or Crays or whatever.

LapLink Professional isn't just a new version of a successful program. It's a substantial revision and update with several new features including pull-down menus, on-the-fly data proprietary compression and modem support. The batch function introduced in LapLink III has been substantially improved. My only complaint is that if you shell to DOS instead of suspending macro recording, the macro is saved and recording is stopped. When you resume the program (by typing EXIT), you then have to start macro recording over again.

The new Copy Size option automatically determines if the directories and files you've selected will fit on the target disk—before starting the transfer. This unique time-saving option is a good feature and should be included in any file copy or transfer program.

The program's split screen gives point-and-shoot access to the local and remote systems' available disk drives and directory trees. And there is a new synchronize function that makes the two file directories or drives identical in one step. If LapLink Pro is running on both systems, one machine can control the two of them.

Like earlier versions, LapLink Pro has a remote install feature. Traveling Software has also added modem support to LapLink Pro's remote install. For serial connections, once installed and running on the local system, the menu choice "Connections/Remote Install" will transmit the LapLink Pro software to the remote system. Both systems must have an available serial port and be connected to one another by the special LapLink Pro (seven-wire) serial cable. And the following must be entered from the DOS command line at the remote system:

MODE COM1:2400,n,8,1,p
CTTY COM1

LapLink Pro takes over from there. The remote system must have MODE.COM in the current directory. Since MODE is one of the files that comes with DOS, this shouldn't be a problem if the system is installed correctly. And besides, if all else fails, you can always walk over to the remote system and install LapLink from floppy. Due to the limitations of the IBM interface, the remote install feature doesn't support parallel connections. With modem connections, there

are a few additional steps such as re-setting the modems and putting the remote system into answer mode. These steps, however, are also done with the MODE command.

Using the point-and-shoot file manager, files, directories and drives can be "tagged" and transferred. The file manager also has options to move, rename, and delete files and directories on the local or remote drives.

PC file transfer over a serial connection is limited to 25 feet, and parallel is

limited to 12 feet. (The package now includes two separate color-coded lightweight cables, instead of one six-headed monster.) A nice carry case for the cables is included in the package that my four-year-old son, Joey, has since claimed for transporting his toys. Both cables are now eight-feet long. Traveling Software also offers a 25-foot serial cable and a host of accessories for the laptop user through a catalog included with the package.

SEE NEXT PAGE

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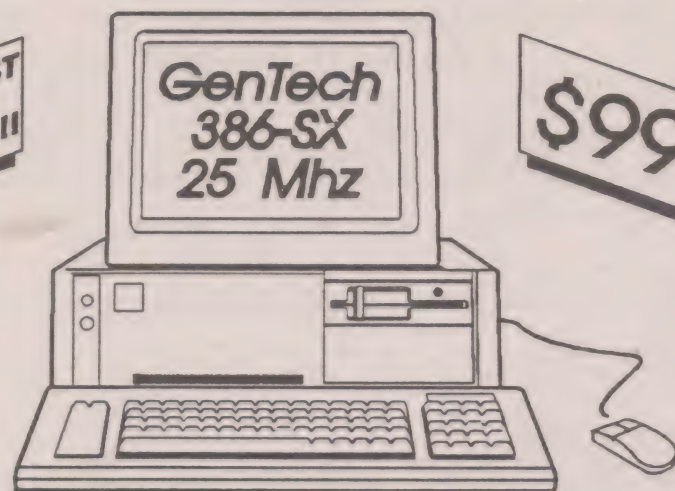
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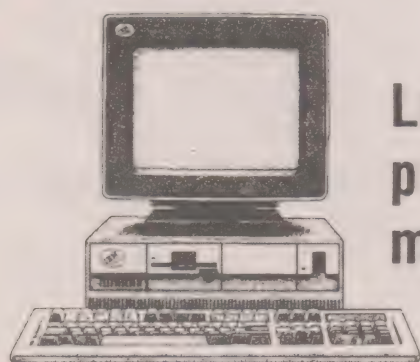
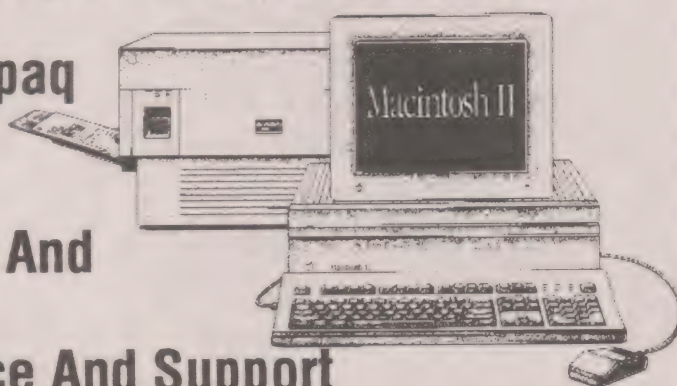
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USER TO USER

FROM PREVIOUS PAGE

LapLink Pro's serial connection can transmit files at more than 200,000 baud in Serial Turbo Mode, although the menu selection says 115,200. With compression, depending on file types, up to an 80-percent increase in throughput is possible.

LapLink Pro's parallel connection is the fastest. Traveling Software has added new parallel drivers and improved the cable design to increase speed to over 500,000 baud without compression. Because parallel mode is so much faster, compression won't improve throughput. LapLink Pro is smart enough to detect the mode being used and uses compression accordingly.

LapLink Pro's compression is ideal for the new modem support. You will see a dramatic increase in throughput when compression is used with modem connections. I like the modem support because it lets users transfer files to another PC no matter how far away it is, providing there is a modem and phone line nearby. Traveling Software has made using a modem really easy because there are no communications parameters to set or complicated setup strings to figure out.

The software comes on a single floppy disk in compressed form. Both 3 1/2-inch and 5 1/4-inch disks are included in the package. There is a simple installation routine that puts all the files in a subdirectory for you. Once installed, the eight files take 431K of disk space. Because the main program is only 220K, it's possible to run it from a 360K floppy without the online help and other non-critical files.

LapLink Pro has good screen layout and mouse support, but works just as well from the keyboard. Hot keys are included for all the major commands. The main program screen has displays for free space, and totals for tagged files are a big help, if you want to keep track of what the heck is going on.

The pull-down menu system works well, and it even has a generous assortment of menu color schemes that can be selected in a single step. One minor thing I noticed was that although the unavailable selections become dim, they aren't greyed-out when you pass the light-bar over them. If you try to select one of these "unavailable"

choices, the program beeps at you. Except for this stupid oversight, the interface is well done and clean. They even have a phantasmagoric color scheme called "Way Ugly" that will remind you of the lighting at Circus Circus, Vegas World or one of Liberace's mansions.

The program's Tree Mode, formerly Ztree, has also been enhanced. On my system, logging a local 128-meg drive only took five seconds. The remote, which is limited by the transfer speed of the connection, took longer, but is the fastest I've seen yet. Below the directory tree window is a smaller window with a display of the files in the highlighted directory. The local and remote directory trees can be displayed simultaneously and the user can move easily from window to window with the tab key or the mouse. LapLink Pro's look and feel is an improvement from earlier versions.

LapLink Pro is a quick and simple way to exchange files for IBM-compatible systems. Although most users already have some type of file transfer software, LapLink Pro has some powerful and unique features that make its introductory price of \$149.95 a good value. Pick up a copy today and send my son Joey your cable carry case.

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Nick Anis is a freelance writer and co-author of several best-selling computer books, including *Dvorak's Guide to PC Telecommunications*, *Glossbrenner's Complete Hard Disk Handbook*, *Dr. File Finder's Guide to Shareware*, *Dvorak's Guide to DOS and PC Performance* and *The PC User's Guide*. Write to him at User to User, 1125 Bramford Court, Diamond Bar, CA 91765, or MCI Mail ID 389-1702, NANIS, or via his bulletin board at 714/396-0014.

Product Info

LapLink Pro
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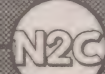
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By Bernie Zilbergeld

"On-Line Advisor" For WordPerfect

Every week, thousands of new computer users start trying to write with WordPerfect and have trouble with lots of things. Most of us veterans are pretty facile with the program, that is, as long as we're doing our usual stuff with it. But try something new or something we did once six months ago and we're reduced to the status of beginner. And so both novices and veterans turn to the manual or one of the many good instruction or reference books available.

Many of the reference books are excellent. I especially like Karen Acerson's *WordPerfect 5.1: The Complete Reference* from Osborne McGraw-Hill. But it's also a bit of a nuisance to have to leave the keyboard and pick up a book, especially a big, heavy book. Wouldn't it be nice to get the help we want right on the screen?

WordPerfect 5.1 On-Line Advisor to the rescue. This memory-resident program from Sybar (a division of Sybex) is actually the full text, as far as I can tell, of Sybex's *WordPerfect 5.1 Instant Reference* by Greg Harvey and Kay Nelson. This is a good book, although it doesn't deal with all the issues and complexities that Acerson's does. Nonetheless, it had answers to most of my questions.

The neat thing is being able to get the answers without leaving the screen or keyboard. Pressing the hot key (Alt /) brings the On-Line Index on screen. You can either scroll through the index to find what you want or type out the feature you want help with (for instance, "boxes," "base font," or "columns"). The format of the response is helpful. It first explains briefly what the feature does. Then it gives you the sequence of keys to be pressed to execute it; sometimes there are several options depending on exactly how you want to use the feature. This is followed by a discussion of the ways in which you might want to use the feature. You just use the cursor keys to go through the explanation. The Advisor is extremely easy to install and use.

You can skip from feature to feature and from the On-Line Advisor back to your document and again back to the Advisor without losing your place anywhere. The Advisor lists a number of helpful cross-references. It can also take you back to items you've previously looked up.

On-Line Advisor runs with either

DOS or Windows and requires 90K of RAM. With 640K of memory, WordPerfect plus the Advisor can accommodate documents of any length. I ran it with several other memory resident programs, including Definitions Plus, with no problem.

There are also Advisors for DOS and Lotus; one for WordPerfect for Windows is promised in a few months. That shouldn't be a problem because so far WordPerfect for Windows itself isn't available.

On-Line Advisor lists for \$34.95 and, since you'll actually pay less than that, I think it's a bargain. This is a very useful little program that does exactly what it's supposed to do with no muss and no fuss. Although I'm supposed to be good with WordPerfect (I should be after using it for seven years), I found it very helpful in getting me out of some places where I had forgotten what to do or was about to make an error. I noticed that I was much more likely to use the Advisor than to turn to a book, even Acerson's book. Highly recommended.

WordPerfect 5.1 On-Line Advisor, \$34.95 (sugg. retail price)

Sybar Software
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Bernie Zilbergeld is a practicing psychologist and author who has been using personal computers for eight years and has written extensively about them. Correspondence on new products or suggested topics for columns are welcome but must be mailed. No phone calls, please. Bernie can be reached at 1901 Leimert Blvd., Oakland, CA 94602.

The opinions expressed in this column are the writer's and do not necessarily reflect those of Computer Currents Publishing.

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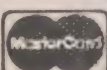


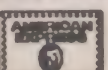
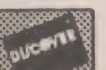
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03 ☐ Manufacturing other
04 ☐ Agriculture, mining, construction
05 ☐ Transportation
06 ☐ Communications
07 ☐ Utilities
08 ☐ Computer related retailer
09 ☐ Non-computer related retailer
10 ☐ Finance, banking, insurance
11 ☐ Real estate
12 ☐ Health, medical service
13 ☐ Legal
14 ☐ Education
15 ☐ Data processing, computer service
16 ☐ Government
17 ☐ Consultant
18 ☐ Wholesale/Distributor
19 ☐ Research/Development
20 ☐ Engineering/Architecture
21 ☐ Other business services
22 ☐ Advertising
23 ☐ Sales/Marketing
24 ☐ Personnel Placement
25 ☐ Entertainment
26 ☐ Other (please specify) _____

22 Title (check one only)

- 01 ☐ Chairman/Pres./Owner/Partner
02 ☐ VP—All
03 ☐ Controller/Treasurer
04 ☐ Director
05 ☐ General Manager
06 ☐ Business Manager
07 ☐ Project Manager Chief/Group Leader
08 ☐ Prod./Merch. Manager
09 ☐ Manager/Supervisor not listed above
10 ☐ Data Base Administrator
11 ☐ Other Administrator
12 ☐ Physician
13 ☐ Accountant
14 ☐ Attorney
15 ☐ Consultant/Advisor
16 ☐ Bus. Microcomputer Specialist
17 ☐ Systems Analyst
18 ☐ Writer
19 ☐ Coordinator
20 ☐ Programmer
21 ☐ Engineer
22 ☐ Educator
23 ☐ Representative
24 ☐ Other (please specify) _____

25 Company Size (check one only)

- A ☐ Under 10 employees E ☐ 250-999
B ☐ 10-24 F ☐ 1000-2499
C ☐ 25-99 G ☐ 2500-4999
D ☐ 100-249 H ☐ Over 5000

26 Department (check one only)

- 01 ☐ Accounting
02 ☐ Administration Management
03 ☐ Communications
04 ☐ Consulting
05 ☐ EDP/MIS
06 ☐ Education/Training
07 ☐ Engineering
08 ☐ Finance
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11 ☐ Personnel
12 ☐ Production/Plant
13 ☐ Purchasing
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15 ☐ Sales
16 ☐ Other (please specify) _____

Does your firm have personal computers?

☐ Yes: If yes, please indicate quantities below. Complete both columns.

☐ No

A: Number
currently
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B: Number plan to
purchase within
next 12 months

- A _____ B _____
_____ IBM PC/XT Compatible
_____ IBM PC/AT (286) Compatible
_____ Macintosh Classic or SE
_____ Macintosh LC
_____ Macintosh IIcx, IIsi, or IIfx
_____ Macintosh IIfx
_____ Macintosh Portable
_____ Aniga 500
A _____ B _____
_____ Aniga 2500 or higher
_____ Atari ST
_____ NeXT Workstation
_____ Sun SPARC system
_____ Other (Please Specify) _____

30 Please estimate your department's budget for computer hardware, software and supplies for the next 12 months:

- A ☐ Over \$500,000
B ☐ 250,000 to 499,999
C ☐ 100,000 to 249,999
D ☐ 50,000 to 99,999
E ☐ 25,000 to 49,999
F ☐ 10,000 to 24,999
G ☐ Under 10,000

31 Through what channels will your department purchase its hardware software and supplies? (Check as many as apply)

- A ☐ Computer Retail Store
B ☐ Distributor/Wholesaler
C ☐ Value Added Reseller
D ☐ Consultant
E ☐ Mail Order
F ☐ Manufacturer
G ☐ Other _____

In which of the following ways are you yourself involved with personal computers, accessories and supplies?

- ☐ Use them
☐ Recommend them
☐ Establish specifications
☐ Approve purchase
☐ Acquire them
☐ Evaluate or select suppliers
☐ Train people to use
☐ Sell them
☐ Develop or manufacture
☐ No involvement
☐ Other involvement (please specify) _____

32 For how many personal computers or microcomputer systems do you have this involvement? (Check one only.)

- A ☐ 1-3 D ☐ 25-49
B ☐ 4-9 E ☐ 50-99
C ☐ 10-24 F ☐ 100 or more

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We welcome notices of upcoming events for our Calendar. Notices must be received by the second Friday of the month prior to publication. Please mail information to: Calendar, Boston Computer Currents, 4 Chrysler Road, Natick, MA 01760. Or send your notice via MCI Mail to "MZIENTARA." Or fax to 617/593-2682.

Please note: Boston Computer Society (BCS) listings are courtesy of the BCS. BCS events are for members only; non-members are invited to attend one meeting before joining the Society. BCS headquarters are at One Kendall Square, Cambridge, MA 02139. Telephone 617/252-0600.

December 7

Marketing and Selling Yourself and Your Business

BCS Consultants & Entrepreneurs Group, final Saturday morning seminar in the Fall series. Led by Louise Reilly Sacco of the Enterprise Group and John Haas of Management Strategies Group. \$25 for BCS Members, \$30 for others. BCS Center, Building 1400, One Kendall Square, Cambridge, Mass. To register, call Bill Contente at 617/723-2770.

December 9

Understanding Data Communications I

A three-day seminar (December 9-11) offered by Boston University's Corporate Education Center, Tyngsboro, Mass. Designed for those with no formal training in data communications. Tuition: \$995. Call 508/649-9731.

Advanced Lotus 1-2-3

A two-day (December 9-10) hands-on seminar offered by The Boston Computer Lab, 75 State Street, Boston, Mass. Fee: \$375. Call 617/345-0870.

December 10

Developing High-Performance Online Text Systems

A four-day (December 10-13) seminar offered by Information Mapping, Inc., 303 Wyman Street, Waltham, Mass. Call the Seminar Division at 617/890-7003.

1-2-3 for Windows, Introduction

A one-day hands-on seminar offered by Computer Tutor Corp., to be held at its Boston location. Fee: \$195. Call 617/964-5858 or 800/649-1449.

BCS Lotus

"Feedback Session with Lotus Development." Give feedback on Lotus products. 7 p.m., Lotus Rogers Auditorium, One Rogers Street, Cambridge, Mass.

December 11

BCS Macintosh

"Microseeds and Bernoulli." Robin

Lane, president of Microseeds, presents Redux, a backup and restore utility, and HAM (Hierarchical Apple Menus). Also, Bernoulli Corp. shows its newest 90MB drives. 7 p.m., MIT, Building E54, Room 329, Cambridge, Mass. Call BCS Mac Office at 617/625-7080.

BCS Business, Accounting & Finance Subgroup

"LAN Accounting Software." Participate in a group discussion of PC Magazine's review by Price Waterhouse of nine LAN accounting packages. Compare Great Plains, AccPac Plus, Platinum and others. Read the article first or get a summary at the meeting. 7 p.m., BCS Center, Building 1400, One Kendall Square, Cambridge, Mass. Contact Bob Traupe at 508/881-6321.

BCS Databases, FoxPro Subgroup

"FoxPro and FoxBase." Fox Software claims that the Macintosh and DOS versions function identically. Discover what new tools and features are being developed. 7 p.m., 128 Entrepreneurs' Center, 200 Fifth Avenue, Waltham, Mass. Contact Hal Phillips at 617/235-1859.

December 12

Data Communications II

A two-day seminar (December 12-13) offered by Boston University's Corporate Education Center, Tyngsboro, Mass. Designed for managerial, technical or operating employees responsible for networks. Tuition: \$795. Call 508/649-9731.

Word for Windows, Advanced Level 1

A seven-hour hands-on seminar, held over two half-days (December 12-13), offered by PRA Computer Training, 33 Boston Post Road West, Suite 310, Marlboro, Mass. Call 508/481-1800.

December 16

FoxPro 2.0 Seminar

A week-long (December 16-20) seminar taught by industry expert Adam Green. For more information, call Adam Green Seminars, Inc., One Faneuil Hall, Boston, Mass., at 617/227-8540.

December 17

BCS Networking, Internet Subgroup

"@%! Network Addresses Explained." How does mail get from here to there over the Internet? Does the ! go before the @ or does the % go in the middle? How is mail addressed that

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goes from Internet to Fidonet? For the answers to these and other exciting questions, come to this meeting. 7:30 p.m., MIT, Building E51, Room 328, Cambridge, Mass. Contact Bill Chosiad at 617/221-2439.

BCS Publishing

"Can You Make a Living at Desktop Publishing?" Self-employed desktop publishers answer this question. How to find work, set rates, work with clients, and educate customers. 7 p.m., BCS Center, Building 1400, One Kendall Square, Cambridge, Mass. Contact David Field at 508/356-5159.

BCS Hypermedia/Optical Disk Publishing

"Fuzzy Logic: An Interactive Multimedia Library from The Discovery Channel." The Discovery Channel demonstrates its new products for the interactive video marketplace. The system offers full search capabilities based on a probabilistic, AI-based matching technique called "fuzzy logic." Combined presentation with the BCS Education Group and Boston Chapter of International Interactive Communication Society. 7 p.m., MIT, Building 4, Room 270, 77 Mass. Ave., Cambridge, Mass. Contact Greg Whalen at 508/687-1128.

BCS IBM, OS/2 Subgroup

"32-Bit DeScribe Word Processor." Dale Woodford, senior programmer at DeScribe, Inc., presents a 32-bit version of their word processor running under OS/2 2.0. 7 p.m., IBM Corp. Waltham Office, 404 Wyman Street, Waltham, Mass. Contact Bill Langlais at 508/462-1253, eves.

WordPerfect 5.0/5.1 Step by Step

A two-day (December 17-18) introductory hands-on seminar offered by Systemetrics, Inc., Renaissance Park, 35 Sockanosset Crossroad, Cranston, R.I. Fee: \$390. Call 401/275-2200.

Hands-On PC Networking

A four-day (December 17-20) hands-on workshop offered by Learning Tree International (Los Angeles). To be held in Boston. Fee: \$1,795. Call 800/421-8166.

Hands-On PC Configuration & Troubleshooting

A four-day (December 17-20) hands-on workshop offered by Learning Tree International (Los Angeles). To be held in Boston. Fee: \$1,795. Call 800/421-8166.

December 18

BCS Training & Documentation

"Making a Living as a Trainer." Join a discussion on the business side of training and how to use teaching skills to earn a living. 7 p.m., MIT, Building E51, Room 136, Cambridge, Mass. Contact Judy Housman at 617/354-2365.

December 19

Society for Information Management

"IS Measurement and Business Value: Bridging the Gap." Speaker Dr.

Howard Rubin, Professor at Hunter College of CUNY and Chairman of Howard Rubin Associates. Luncheon meeting. 12-2 p.m., Marriot Hotel, Newton, Mass. Call 617/237-1570 for fees and reservations.

dBase III+ Beginning

A one-day course offered by Suffolk University School of Management. To be held at Catapult Training Facilities, 101 Arch Street, Boston, Mass. Fee: \$245. Call 617/573-8305.

BCS Consultants & Entrepreneurs

"Expanding Your Business." A panel of experts discuss strategic alliances, joint ventures, licensing, patent and trademark sales, international marketing, distribution agreements, and the legal ramifications of expansion. 7 p.m., 128 Entrepreneurs' Center, 200 Fifth Avenue, Waltham, Mass. Contact Louise Sacco at 617/444-6631.

December 21

BCS Macintosh Special Event

"Mac Czech Group." Interested in helping people in Czechoslovakia use Macs? Through contacts in the Czech University system, volunteers assist the "velvet revolution." 10 a.m.-noon. BCS Mac Office, 48 Grove Street, Davis Square, Somerville, Mass. Call BCS Mac Office at 617/625-7080.

December 23

BCS IBM, Women's Issues Subgroup

Topic to be announced. 6:30 p.m., IBM Group Offices, Suite 230, 188 Needham Street, Newton, Mass. Contact Lucy Rakov at 617/969-4556.

Introduction to the PC

A one-day introductory hands-on seminar offered by Systemetrics, Inc., Renaissance Park, 35 Sockanosset Crossroad, Cranston, R.I. Fee: \$195. Call 401/275-2200.

December 26

Lotus Symphony, Introductory

A two-day (December 26-27) hands-on seminar, \$395, offered by The Boston Center for Computer Applications, Inc. (BCCA), 336 Newbury Street, Boston, Mass. Call 617/247-0538.

JANUARY PREVIEW

January 7

New BCS OS/2 Users Group

"Access to External Databases." Live demonstration of 1-2-3 for OS/2 accessing two remote databases, Paradox and OS/2 Extended Edition, using the latest Lotus DataLens drivers. Free software door prizes. 7 p.m., opening clinic. 7:30 p.m., main meeting. Lotus Development Corp., 1 Rogers Street Facility, Cambridge, Mass. Enter on First Street diagonally across from Uncle Sam's Deli. Push button and tell guard, "BCS Meeting." Contact Marcia Gulesian at 508/369-3918.

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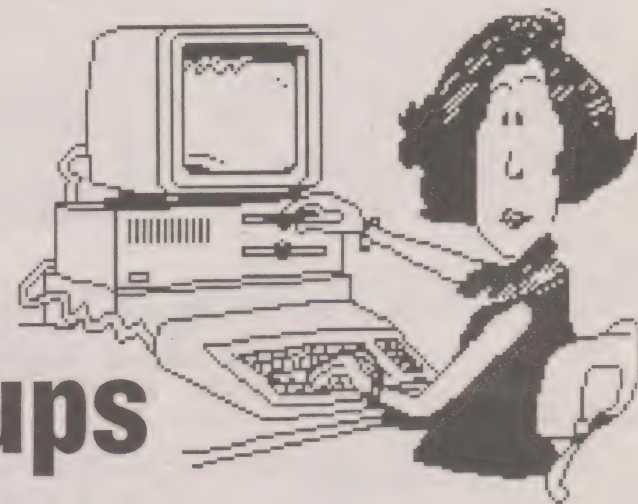
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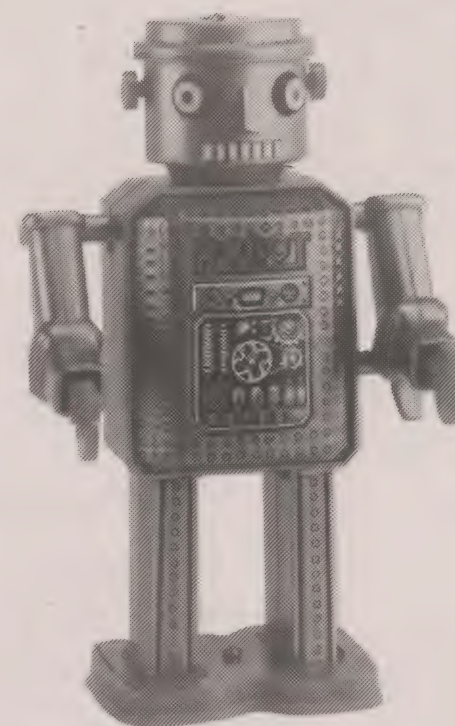
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By Lincoln Spector

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The fog was as thick as an IBM press conference as I returned to my office. Somewhere, off in the distance, the stillness of the night was shattered by the sound of a QIC-80 tape drive. I smiled to myself; it's a dirty, dangerous world out there, and someone was taking precautions.

I was returning from a case — a tough one. One of my clients had needed information; needed it bad. The trouble was, the information she needed was on an Oracle server. I told her she would have to wait — maybe even wait for the SQL.

I was about to enter the building when two men in trench coats approached me. I didn't like the look of them; even in the dark and the fog, I could see their power ties.

"Mr. Rowe?" one of them asked.

"That's me," I said, "Mac Rowe, private consultant."

Suddenly, I was hit on the head with something heavy — it might have been an IBM portable. The next thing I knew I was lying on a couch in a swank apartment, with a headache the size of OS/2.

A well-dressed, portly man was standing over me. "I must apologize," he said in a cultured English accent, "for the way my boys brought you over here, Mr. Rowe, but such tactics are occasionally necessary. I was wondering if you could do a little job for me."

"Forget it."

"No hard feelings, please, Mr. Rowe. I'm sure I can persuade you to do as I wish. Do the words 'Miles Archer' mean anything to you?"

I tried to look calm. "Miles Archer? Never heard of him."

He smiled back at me. "You're a good liar, Mr. Rowe, but not good enough. I know perfectly well that 'Miles Archer' is your CompuServe password."

"You wouldn't dare!"

"No, I suppose I wouldn't... unless you refused to help me."

At first glance, his problem was a simple one. He was building a worksheet in CellBlock IV — the new spreadsheet by Green, Street, and Falcon — and there were some formulas that he just couldn't get to work right. I sat down and started hacking.

I found the problem almost immediately. He didn't know how to multiply the circumference of a circle by a percentage of annual sales plus the square

root of the date. It was my job to find the right function.

The first place I looked was the back of the documentation — the index. There was nothing under "circumference," nothing under "circle," nothing under "percentage," and nothing under "function." These guys weren't in business to make my life easy.

I was contemplating how the book would look with a cement dust jacket when my eyes fell on the word "@KICHENSYNC." Call it a hunch, but I knew that was the function I needed.

I turned to the listed page and confirmed my suspicions; this function fit my needs like Lotus and a lawsuit. The documentation was explicit: "@KICHENSYNC requires five parameters: X, Y, DecHand, Q13, and AnyNumberAtAll, in order to multiply the circumference of a circle by a percentage of annual sales plus the square root of the date." Of course, the book wasn't about to tell me anything about those parameters other than their names. This was going to require some real investigating.

I tried using the function a few times to see what I could find out. I found out that CellBlock error messages are written by an illiterate. If I was going to unravel this one, I was going to need some outside help.

I gave the two goons the slip and paid a visit to Techy Seport, an old acquaintance with Green, Street, and Falcon contacts. As usual, Techy kept me waiting an hour before I could see him. When I was finally ushered into his presence, he looked nervous.

"Hi, Mac," he said. "Haven't seen you around for awhile. What can I do for you?"

I gave him a toothy grin to put him at ease. "Ever hear about a CellBlock function called @KICHENSYNC?"

If he looked nervous before I asked the question, afterwards he looked like a Compaq rep at a price war. "@KICHENSYNC, eh? I might have. Do you have your serial number?"

So that was his game — going by the book. I leaped for him and grabbed his lapels. "Listen, punk," I snarled, "you may think you're a hotshot around

poor dopes who wouldn't know a stack from an SCSI drive adapter, but to me you're as transparent as a well-written interface. Now what do you know about @KICHENSYNC?"

I let go of his coat and let him recover his balance. "I'll... go... look it up," he managed to stammer out as he removed the CellBlock IV documentation from his bookshelf. "Ah, here it is." He read from the book. "'@KICHENSYNC requires five parameters: X, Y, DecHand, Q13, and AnyNumberAtAll, in order to multiply the circumference of a circle by a percentage of annual sales plus the square root of the date.' You know, you really should read the documentation."

"Okay, smarty," I countered. "What goes in those parameters?"

I could watch his mind move on that one. It was like an 8088 running Windows. "I'll be right back," he finally blurted out before disappearing into the next room.

I was rifling through his desk when I found what I was looking for: *CellBlock IV Made Easy*, a paperback from Green, Street, and Falcon Books. I was leafing through it when I heard a familiar but unexpected British accent. "Very good, Mr. Rowe. I knew you'd be able to solve my little problem."

I whirled around to see my client smiling back at me. "You're Sydney Falcon, aren't you? Of Green, Street, and Falcon, software vendors and now book publishers." He nodded that I had guessed right. All the pieces fell into place. "You could have included decent documentation with your software, but you'd rather sell books, too. And that meant you had to make sure your documentation was useless, so you hired me to..."

Falcon nodded again, this time at someone behind me. I felt another crushing blow on my head — where do they get all those IBM portables?

I woke up in my office, spread out on the cheap carpet. Lying next to me was an envelope with ten thousand-dollar bills. It's a tough life being a private consultant, even when you charge by the hour.

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Lincoln Spector is the author's real name, appearing on both his driver's license and his birth certificate. An Assistant Editor at *PC World*, Lincoln can be reached via MCI mail as LSPECTOR.

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